ALFIMOV, A. N.

USSR/Solid State Physics - Phase Transformations in Solids, E-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34682

Author: Alfimov, A. N., Gulyayev, A. P.

Institution: None

Title: Investigation of Martensitic Transformation in Steel

Original Periodical: Zh. Tekhn. Fiziki, 1955, 25, No 4, 680-686

Abstract: An investigation was made of the effect of the dimensions of the grain and of the dimensions of the specimens of the kinetics of the martensitic transformation in steel, and also the position of the temperature of the start of the martensitic transformation as a function of the sensitivity of the investigation methods. The investigation was carried out in a high-sensitivity thermomagnetic installation (Referat Zhur - Fizika, 1956, 22693). The specimens were made of steel containing (in percent) 1.5 C; 0.76 Si; 3.4 Mn. It is shown that when the sensitivity of the installation is reduced from 1×10^{-5} to 5×10^{-1}%, the temperature at which the first noticeable amounts of martensite were established dropped from -50 to -82°. The martensitic transformation takes place in jumps; the kinetic curves of the transformation, corresponding to the high sensitivity, are in the form

1 of 2 - 1 -

USSR/Solid State Physics - Phase Transformations in Solids, E-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34682

Author: Alfimov, A. N., Gulyayev, A. P.

Institution: None

Title: Investigation of Martensitic Transformation in Steel

Original Periodical: Zh. Tekhn. Fiziki, 1955, 25, No 4, 680-686

Abstract: of a staircase. The experimentally-determined temperatures of the start of the martensitic transformation have a large dispersion, which increases with increasing sensitivity of measurement. As the specimen diameter is decreased, other conditions being equal, the martensitic point of the steel becomes lower. The same results are obtained by increasing the grain size. Consequently, the more grains there are in a cross section of the specimen, the higher the martensitic point. In monocrystals, the martensitic conversion does not occur even when the specimen is cooled to the temperature of liquid air. The influence of the size of the grain and of the dimensions of the specimen on the martensitic transformation is explained by the authors from the point of view of the decisive role of the second-kind stresses during the process of transformation of austenite into martensite.

2 of 2

- 2 -

Alfimov, A. N.

USSR/Physics - Phase transformations in steel FD-3117

Card 1/1 Pub. 153 - 16/24

Author : Alfimov, A. N.

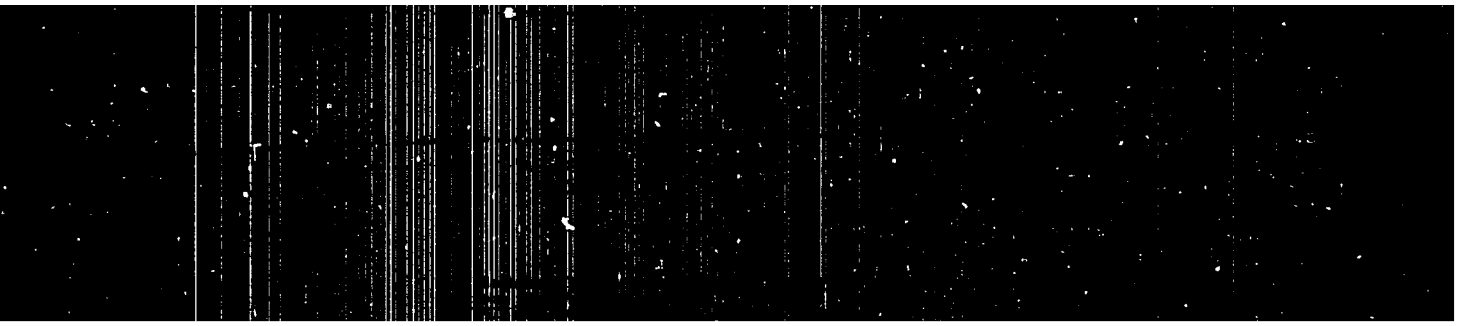
Title : High-sensitivity thermomagnetic device for the study of phase transformations in steel

Periodical : Zhur. tekh. fiz., 25, No 6 (June), 1955, 1105-1110

Abstract : The author describes a device, for the study of martensite transformations, which involves light source, lens focussing image of light source on slit, lens focussing image of slit on drum and scale, scale for visual observation, mirror of galvanometer, synchronous motor, reducer, drum of camera, mirror, thermocouple, electromagnet, Dewer flask, rectifier, stabilizer, variator, etc. The principles employed in the device are the same as those governing the anisometer of N. S. Akulov described in the works of A. N. Alfimov (Sbornik trudov TsNIITMANSh, Machine Press, 1954). In this work the author merely describes the design of the attachment for holding the sample in space between poles of the electromagnet and the device for cooling the sample in the region of negative temperatures.

Institution :

Submitted : July 12, 1954



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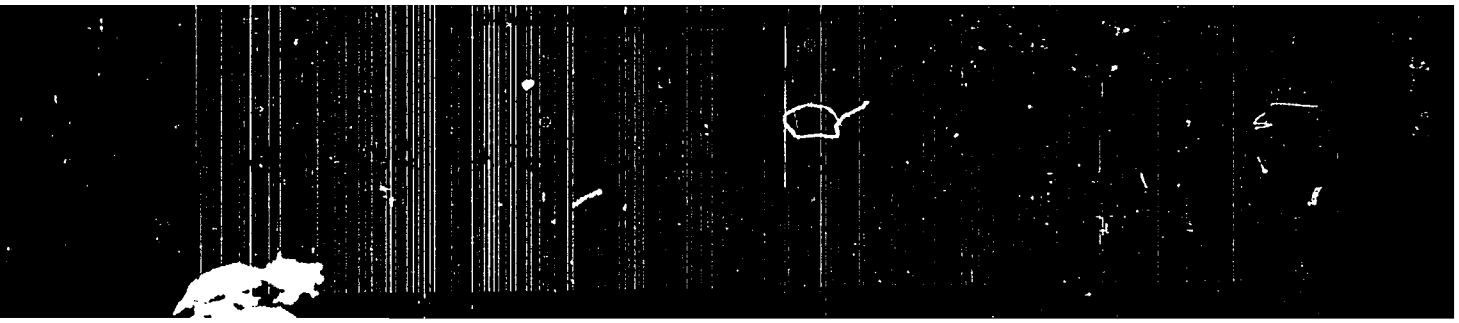


APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000101020020-5"

129-9-4/14

AUTHOR: Alfimov, A. N., Candidate of Technical Sciences.

TITLE: On certain problems of the formation of the structure of carbon steels. (O nekotorykh voprosakh formirovaniya struktury uglerodistoy stali).

PERIODICAL: "Metallovedeniye i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.9, pp.17-18 (U.S.S.R.)

ABSTRACT: Mainly on the basis of literary data it is concluded that by considering the austenite transformation below the bend of the C-shaped curve as a martensitic transformation and taking into account the influence of the transformation temperature, the phase stresses and the thermal stresses occurring as a result of heat liberation during transformations, a number of known phenomena can be explained, namely: the increase in the concentration of carbon and the quantity of carbides around the tempered martensite crystals and crystals forming during isothermal annealing of austenite in the intermediate temperature range, the change in the carbon concentration of the austenite and the crystals of the new phase during transformation of austenite in the intermediate temperature range; the decrease of the temperature of the beginning of martensitic transformation after partial transformation of the austenite in the intermediate

Card 1/2

On certain problems of the formation of the structure of carbon steels. (Cont.) 129-9-4/14

temperature range.
There are 14 references, 11 of which are Slavic.

ASSOCIATION: TsNIITMASh.

AVAILABLE:

Card 2/2

ACCESSION NR: AP3000136 S/0062/63/000/005/0955/0955

AUTHOR: Nikol'skiy, V. G.; Alfimov, M. V.; Buben, N. Ya.

TITLE: The nature of radio-thermoluminescence of organic compounds

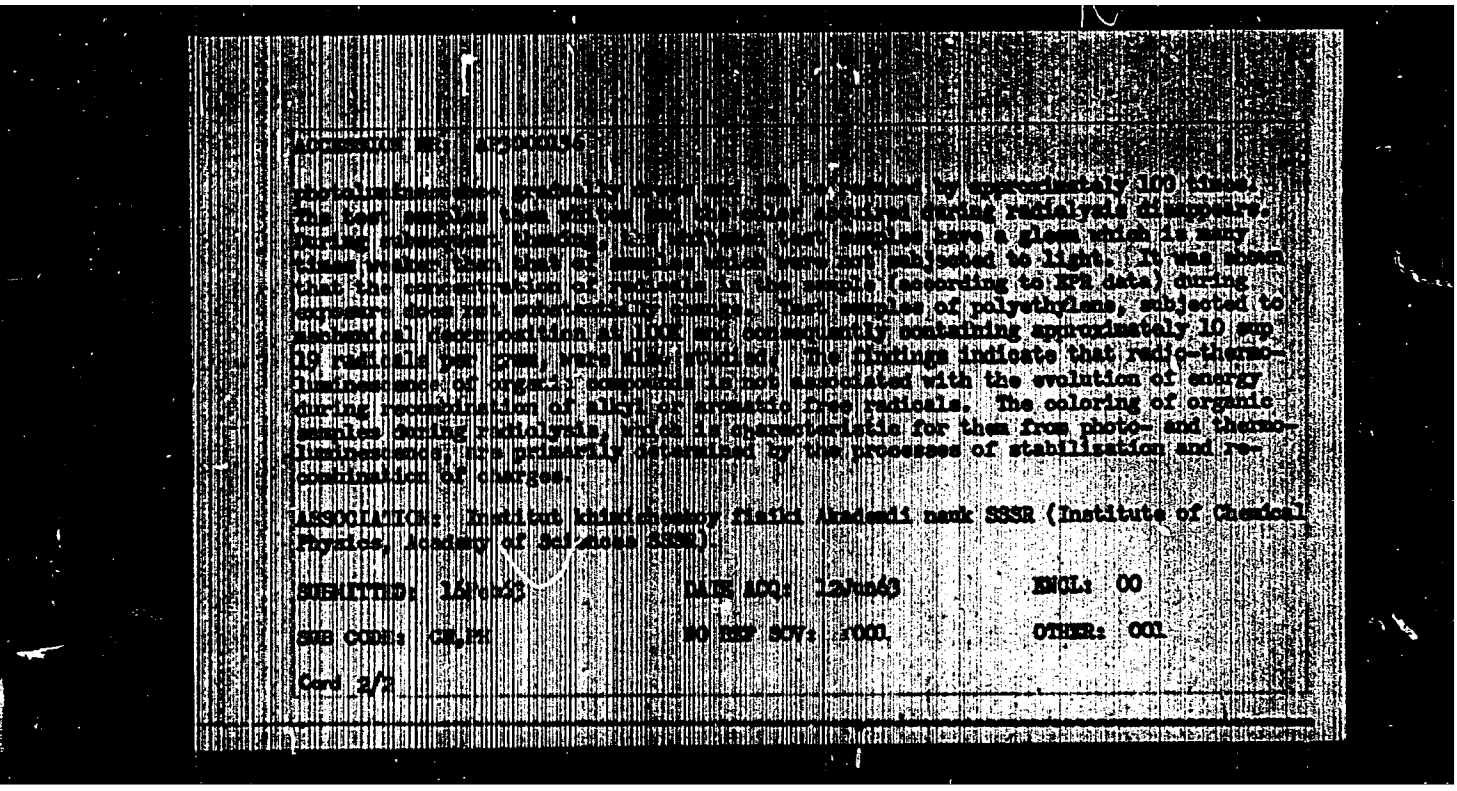
SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 955

TOPIC TAGS: radiolysis, radio-thermoluminescence, hexane, nonane, benzine, polyethylene, alkyl radicals, [illegible] radicals

ABSTRACT: When organic substances are heated, a glow is very often observed after radiolysis. This glow [illegible] associated with the [illegible] [illegible] during radiolysis ([illegible] [illegible] 1960, 1959), or with the recombination of stabilized radicals ([illegible] L. S., Bytova, N. M.; Proceedings of 2nd All-Union Conference on Radiation Chemistry. Moscow. Izd. AN SSSR, 1962, p. [illegible]).

[illegible] hydrocarbons (hexane, nonane, benzine, and others) which were irradiated by fast electrons at 77K were studied. It was found that all of these substances luminesce if they are excited by visible light at 77K after radiolysis. During a prolonged exposure, the intensity of the

Card 1/2

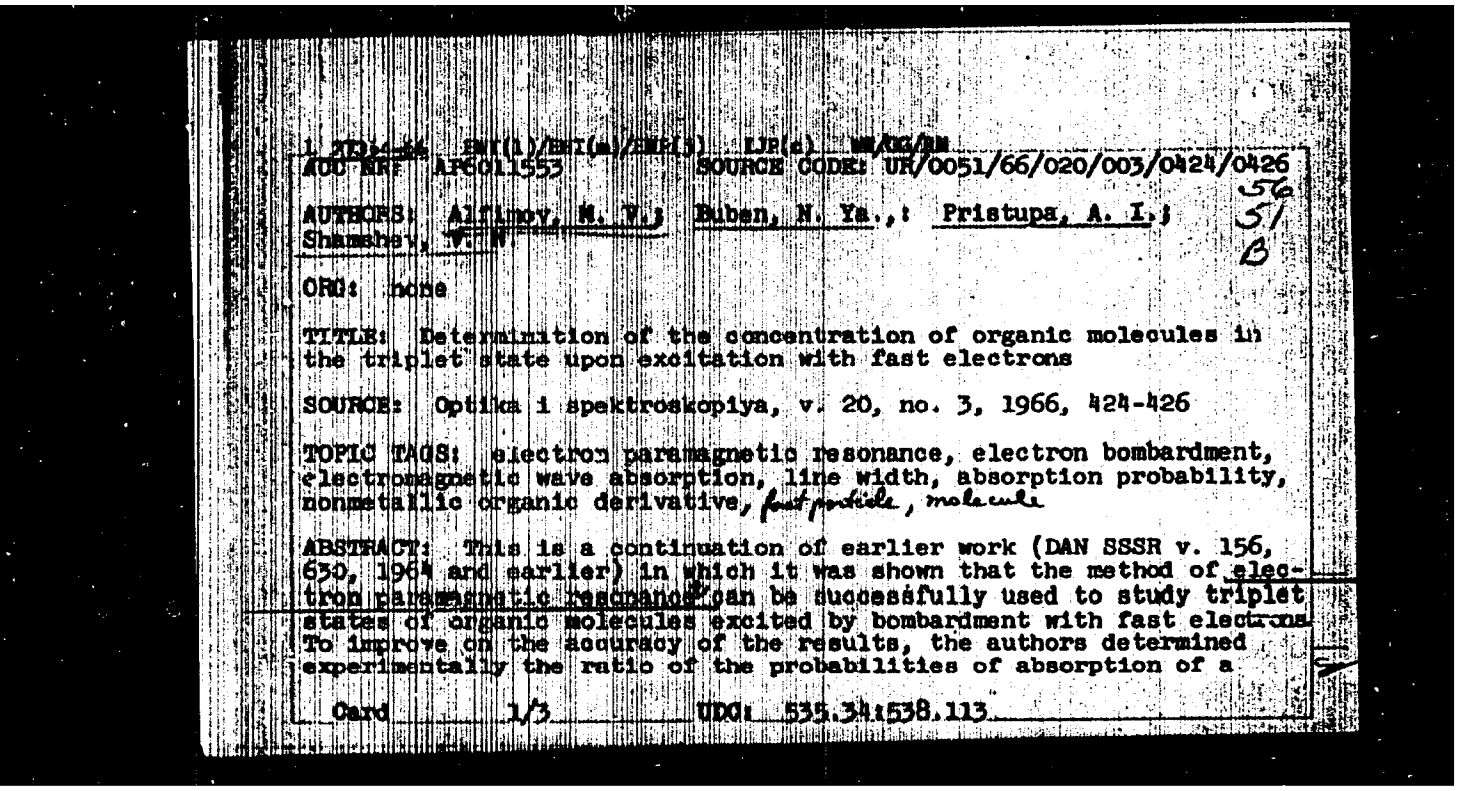


Card 2/2

ALFIMOV, M.V.; BUBEN, N.Ya.; PRISTUPA, A.I.; SHAMSHEV, V.N.

Excitation of triplet states of naphthalene and benzene molecules by fast electrons. Izv.AN SSSR.Ser.khim. no.8:1525 Ag '63. (MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Naphthalene--Spectra) (Benzene--Spectra)



1 [illegible] EWT(l)/EWT(m)/EWP(t) LJP(c) WW/RM/RM

ACC NR: AP6011553 SOURCE CODE: UR/0051/66/020/003/0424/0426

AUTHORS: Alfimov, M. V.; Buben, N. Ya.; Pristupa, A. I.; Shamshev, V. N.

ORG: none

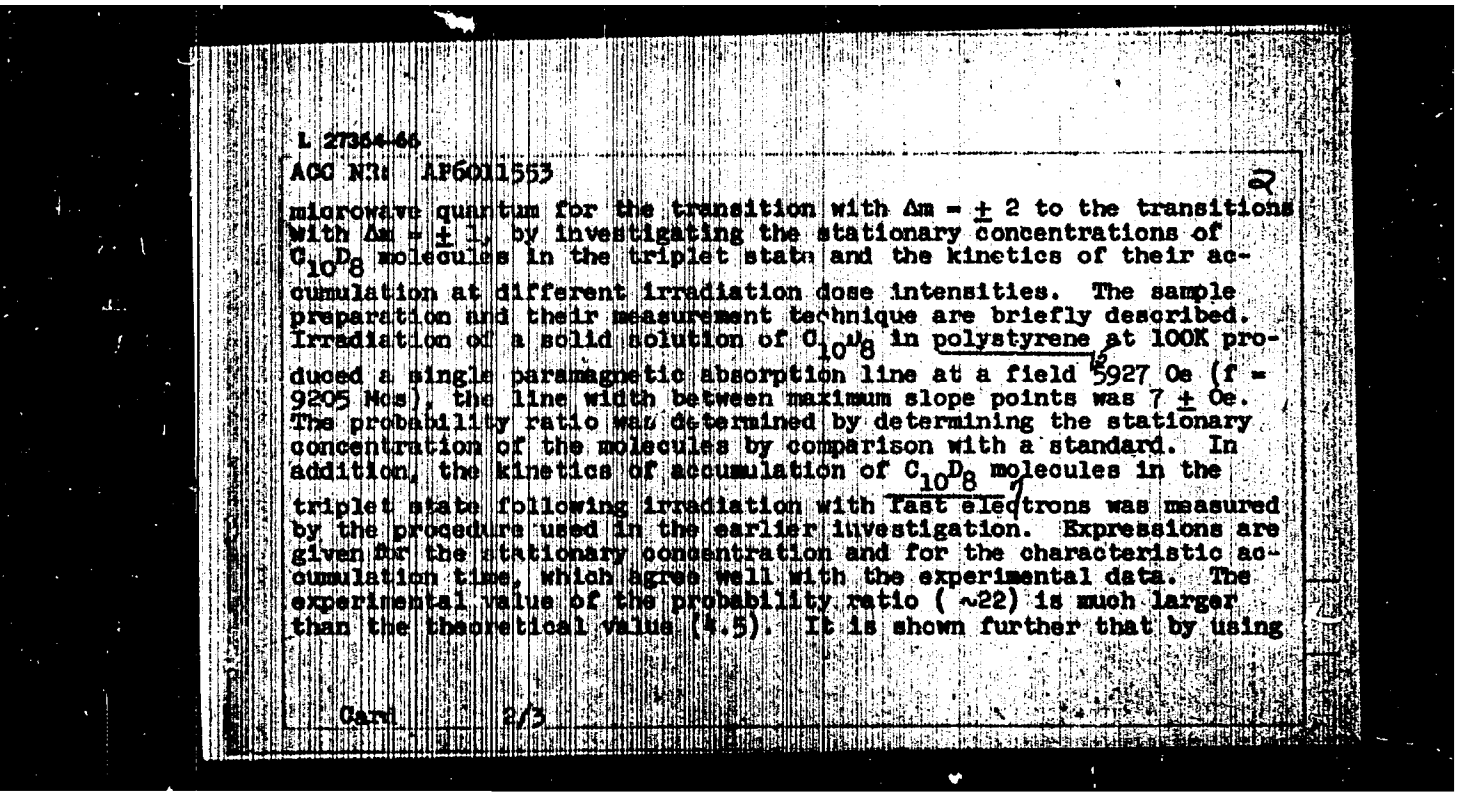
TITLE: Determination of the concentration of organic molecules in the triplet state upon excitation with fast electrons

SOURCE: Optika i spektroskopiya, v. 20, no. 3, 1966, 424-426

TOPIC TAGS: electron paramagnetic resonance, electron bombardment, electromagnetic wave absorption, line width, absorption probability, nonmetallic organic derivative, fast particle, molecule

ABSTRACT: This is a continuation of earlier work (DAN SSSR v. 156, 630, 1964 and earlier) in which it was shown that the method of electron paramagnetic resonance can be successfully used to study triplet states of organic molecules excited by bombardment with fast electrons. To improve on the accuracy of the results, the authors determined experimentally the ratio of the probabilities of absorption of a

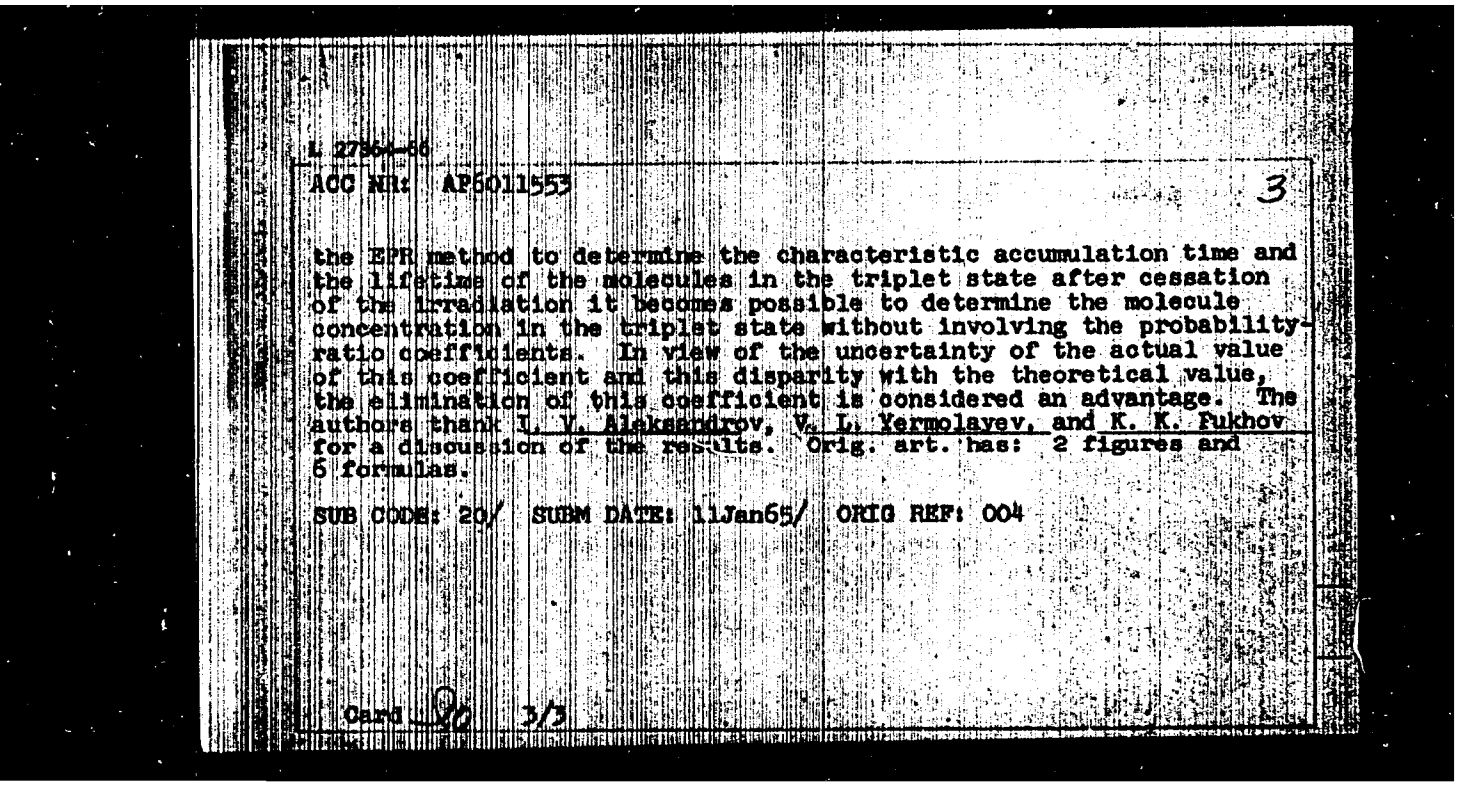
Card 1/3 UDC: 535.34:538.113



L 27364-66
ACC NR: AP6011563

microwave quantum for the transition with $\Delta m = \pm 2$ to the transitions with $\Delta m = \pm 1$, by investigating the stationary concentrations of $C_{10}D_8$ molecules in the triplet state and the kinetics of their accumulation at different irradiation dose intensities. The sample preparation and their measurement technique are briefly described. Irradiation of a solid solution of $C_{10}D_8$ in polystyrene at 100K produced a single paramagnetic absorption line at a field 5927 Oe (f = 9205 Mcs), the line width between maximum slope points was 7 ± Oe. The probability ratio was determined by determining the stationary concentration of the molecules by comparison with a standard. In addition, the kinetics of accumulation of $C_{10}D_8$ molecules in the triplet state following irradiation with fast electrons was measured by the procedure used in the earlier investigation. Expressions are given for the stationary concentration and for the characteristic accumulation time, which agree well with the experimental data. The experimental value of the probability ratio (~22) is much larger than the theoretical value (4.5). It is shown further that by using

Card 2/3



L 27364-66
ACC NR: AP6011553 3

the EPR method to determine the characteristic accumulation time and the lifetime of the molecules in the triplet state after cessation of the irradiation it becomes possible to determine the molecule concentration in the triplet state without involving the probability-ratio coefficients. In view of the uncertainty of the actual value of this coefficient and this disparity with the theoretical value, the elimination of this coefficient is considered an advantage. The authors thank L. V. Aleksandrov, V. L. Yermolayev, and K. K. Fukhov for a discussion of the results. Orig. art. has: 2 figures and 6 formulas.

SUB CODE: 20/ SUBM DATE: 11Jan65/ ORIG REF: 004

Card 2/2 3/3

L 18542-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pr-4/Pc-4 RM/MAY
ACCESSION NR: AP3006763 S/0190/63/005/009/1388/1392

AUTHORS: Alfimov, M. V.; Nikol'skiy, V. G.

TITLE: Radio-thermoluminescent investigation of structural transformations in butadiene rubbers in the 130-273K temperature range

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 9, 1963, 1388-1392

TOPIC TAGS: structural transformation, radio-thermoluminescence, butadiene rubber, reorientation, glassy state, elastic state, vitrification

ABSTRACT: The investigation was undertaken of refined samples of industrial synthetic rubbers SKB, SKBM, and SKD, which contained a 66%-, 40%- and 8-2% respective concentration of 1,2-CH_2=CH-CH-CH_2- groups. A few drops of a benzene solution of these were placed in a metallic cuvette, the solvent evaporated, and a 20-40 micron rubber film obtained. This was subjected to irradiation with fast electrons of a 1.6 Mev energy, at 77K. The irradiation dose amounted to 2 Mradian, the films being defrosted at a rate of 2 to 6CC per minute. The luminescence was recorded by a FEU-19 photoelectronic amplifier, and the temperature of the films during irradiation was measured by a thermocouple. The obtained curves showed two maximums, the first located within the

Card 1/2

L 18542-63
ACCESSION NR: AP3006763

3

130-160K temperature region, the second within 160-273K. The authors attribute the first maximum to the defrosting of methylene groups and the second maximum to a transition of the rubber from the glassy to the high-elasticity state. This is supported by the fact that the temperatures of the maxima peaks practically coincide with the temperature of vitrification of the respective rubber. It was also found that the second maximums showed shifts as to temperature on the thermoluminescence curve. These seem to bear a relationship to the concentration of the 1,2 - groups, the highest (nearly 50C) belonging to SKB rubber, with SKBM coming next. The values for the activation energies of vitrification were determined. N. Ya. Buben is thanked for interest and consultation and D. N. Sapozhnikov for assistance. Orig. art. has: 1 formula and 4 charts.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 05Mar62 DATE ACQ: 30Sep63 ENCL: 00

SUB CODE: CH NO REF SOV: 008 OTHER: 008

Card 2/2

NIKOL'SKIY, V.G.; ALFIMOV, M.V.; BUBEN, N.Ya.

Change in electron paramagnetic resonance spectra in the optical bleaching of irradiated organic substances. Zhur. fiz. khim. 37 no.12:2797-2798 D '63. (MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR.

L 06234-67 EWT(m)/EWP(j) JW/RM

ACC NR: AP6030707 SOURCE CODE: UR/0195/66/007/004/0766/0767

54
B

AUTHOR: Alfimov, M. V.; Batekha, I. G.; Smirnov, V. A.

ORG: Affiliate of the Institute of Chemical Physics, AN SSSR (Filial Instituta khimicheskoy fiziki AN SSSR)

TITLE: Change in the steady concentration of triplet states and the photosensitized decomposition of methyl alcohol

SOURCE: Kinetika i kataliz, v. 7, no. 4, 1966, 766-767

TOPIC TAGS: absorption spectrum, photosensitivity, EPR spectrum, photon, ionization

ABSTRACT: Irradiation of carbazole solutions in methyl alcohol causes the formation of triplet states of carbazole in concentrations sufficient to be observed by the EPR method. The concentration drops 3-4 times in several minutes. Absorption spectra show that this drop is due mostly to the decomposition of the impurity into positive ions and electrons. Ionization proceeds from the triplet level. One of possible mechanisms underlying the photosensitized decomposition of alcohols is the two-photon ionization of amine molecules and the reaction of electrons with the alcohol molecules. The electron-molecule mechanism of radical formation is confirmed by the existence of the induction period on the kinetic curve of the formation of CH_2OH radicals.

SUB CODE: 07/ SUBM DATE: 28Dec65/ ORIG REF: 005/ OTH REF: 002

UDC: 541.144.8 : 547.261

Card 1/1

L 07072-67 EWT(m)/EWP(j) LJP(c) RM
ACC NR: AP6030699 SOURCE CODE: UR/0195/66/007/004/0583/0588

AUTHOR: Smirnov, V. A.; Alfimov, M. V.

ORG: Branch of the Institute of Chemical Physics, AN SSSR (Filial Instituta Khimicheskoy fiziki AN SSSR)

TITLE: Experimental determination of the coefficient characterizing the probability of the $\Delta m = \pm 2$ transition for triplet states of organic molecules

SOURCE: Kinetika i kataliz, v. 7, no. 4, 1966, 583-588

TOPIC TAGS: phenanthrene, kinetic equation, polyvinyl acetate, paramagnetic absorption, coronene

ABSTRACT: It is proposed to determine the coefficient α (ratio of probabilities of the $\Delta m = \pm 1$ to the $\Delta m = \pm 2$ transitions) for metastable (triplet) states of aromatic molecules by excitation with ultraviolet light. By considering the kinetic equations and by neglecting certain terms said to be negligible, a formula is derived for the steady state concentration of molecules at the triplet level. On the basis of comparison with a standard reference material, a formula for computing α is established:

$$\alpha_s = \frac{n_0(1-\tau_1/\tau_0)}{\frac{S_T}{S_s} n_s}$$

Card 1/2 UDC: 541.141.7

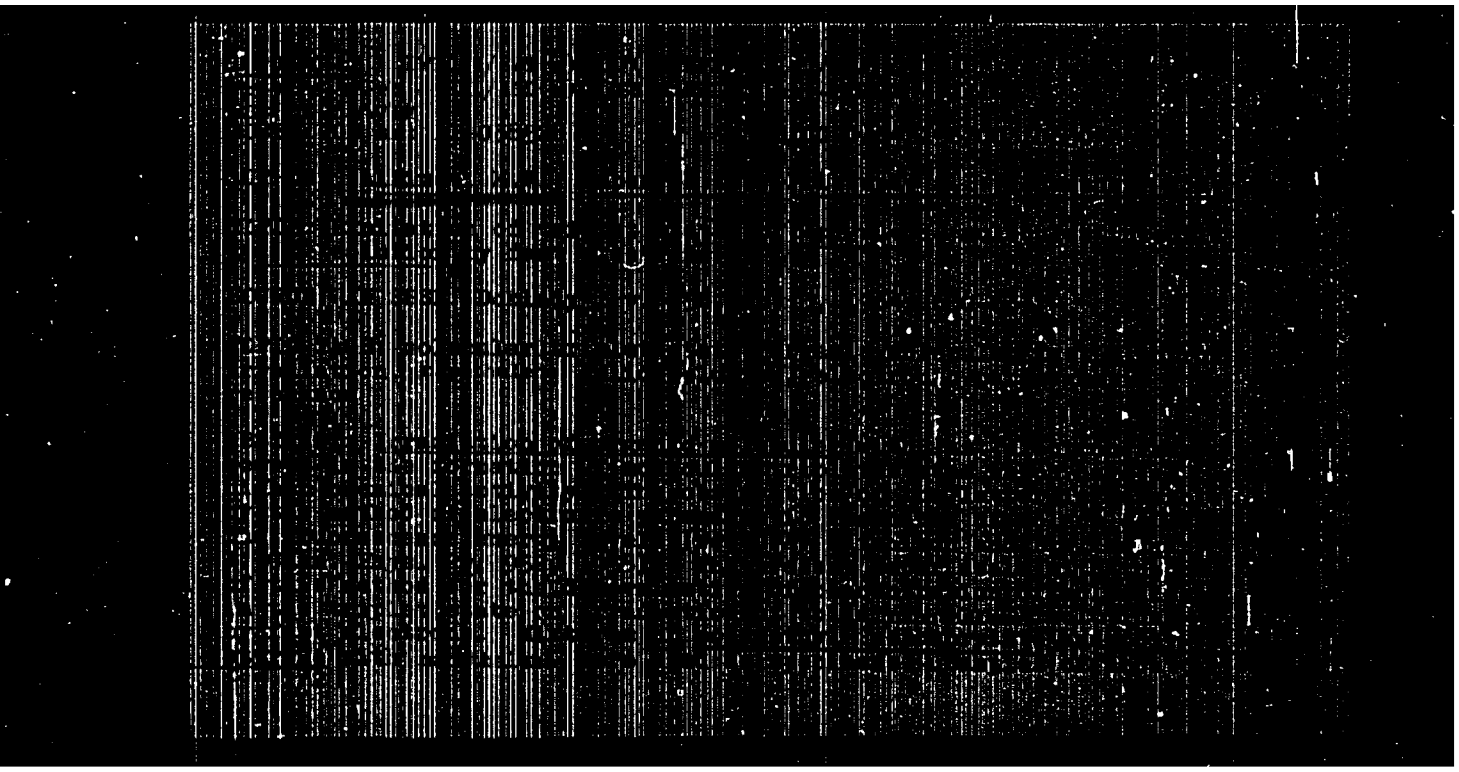
where n_0 and n_s are the concentrations of the substance being studied and the standard respectively, S_T and S_s are the areas under the absorption curves for the material and the standard respectively, τ_0 is the lifetime of molecules at the triplet level, and τ_1 is the time of accumulation of molecules at the triplet level as a result of excitation by ultraviolet light (relaxation time). Coronene and phenanthrene, the substances investigated, were dissolved, together with polyvinyl acetate, in benzene and the solvent evaporated. Thin films were used, about 4 mg in weight and about 0.08 mm in thickness. The concentration of the material studied was 0.005 g per gram of film. Crystals of $CuCl_2 \cdot 2H_2O$ were used as the standard for the paramagnetic absorption studies. Standard equipment was used: a radiospectrometer, a mercury lamp with filter, and optical measuring devices. The authors obtained a value for α of 30 for phenanthrene and of 35 for coronene, and consider that their experimental study of these two aromatics substantiate the validity of their proposal. They concede, however, that the α values obtained differ by about one order of magnitude from theoretical values calculated by a formula proposed by I. V. Aleksandrov and K. K. Pukhov (*Optika i spektroskopiya*, 17, p. 944, (1964)) which yields 2.6 for phenanthrene and 5 for coronene. In conclusion, the authors thank I. V. Aleksandrov, N. Ya. Buben, V. L. Yermolayev, and K. K. Pukhov for discussing the results. Orig. art. has: 12 formulas, 4 figures.

SUB CODE: 07/ SUBM DATE: 25Jan65/ ORIG REF: 006/ OTH REF: 003

ALFIMOV, M.V.; NIKOL'SKIY, V.G.; BUBEN, N.Ya.

Thermoluminescence and ESR spectra of organic compounds irradiated with fast electrons. Kin. i kat. 5 no.2:268-276 Mr-Ap '64. (MIRA 17:8)

1. Institut khimicheskoy fiziki AN SSSR.



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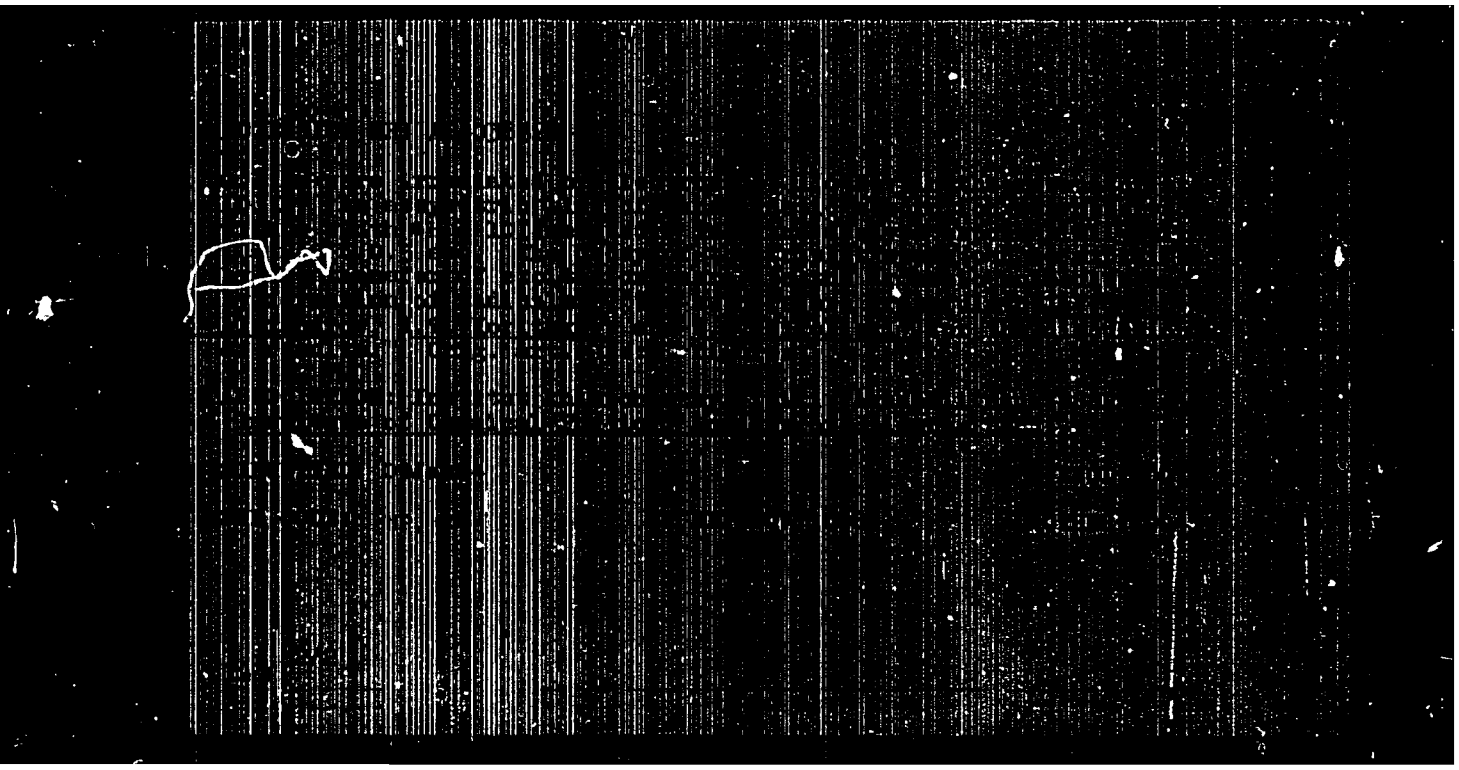

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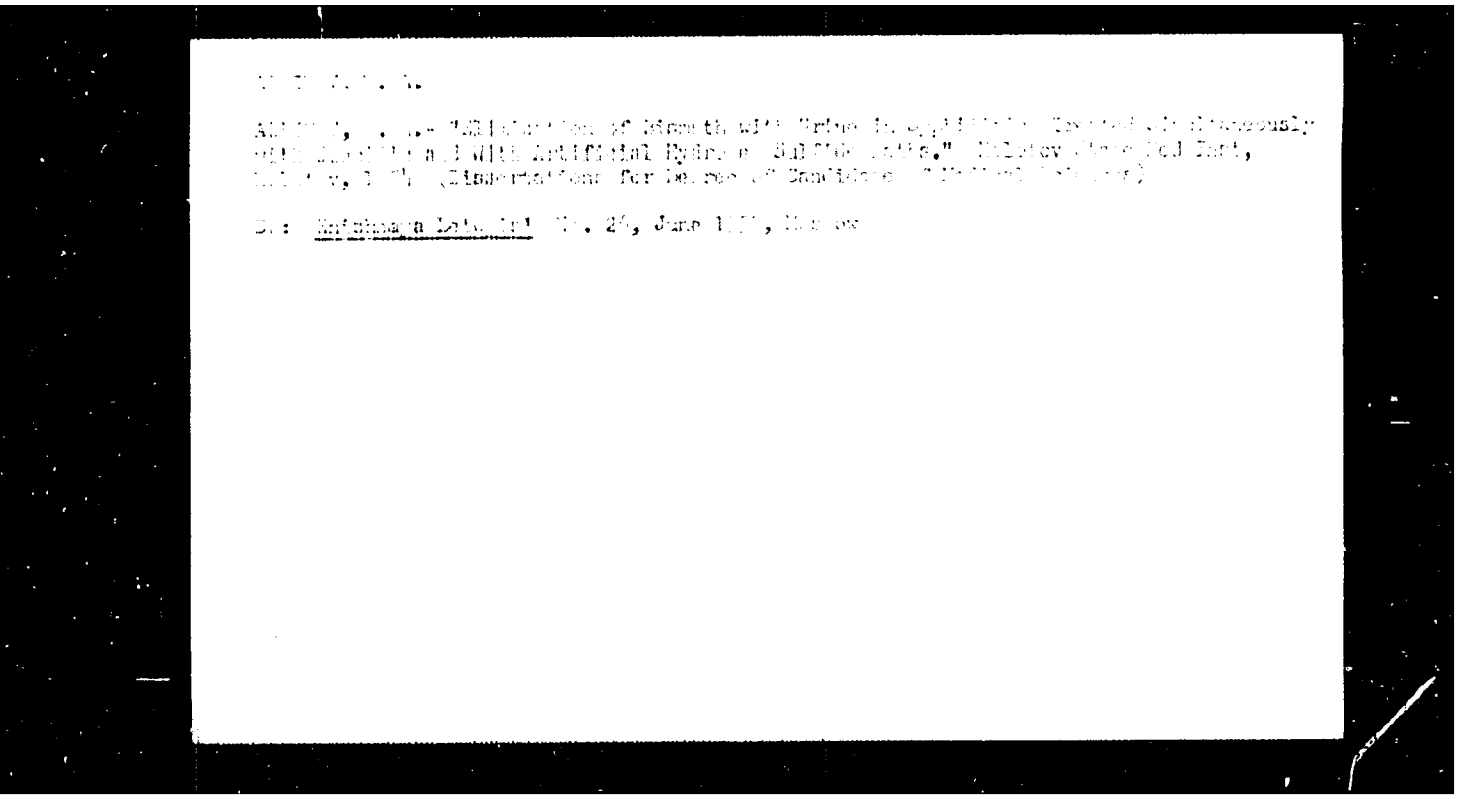
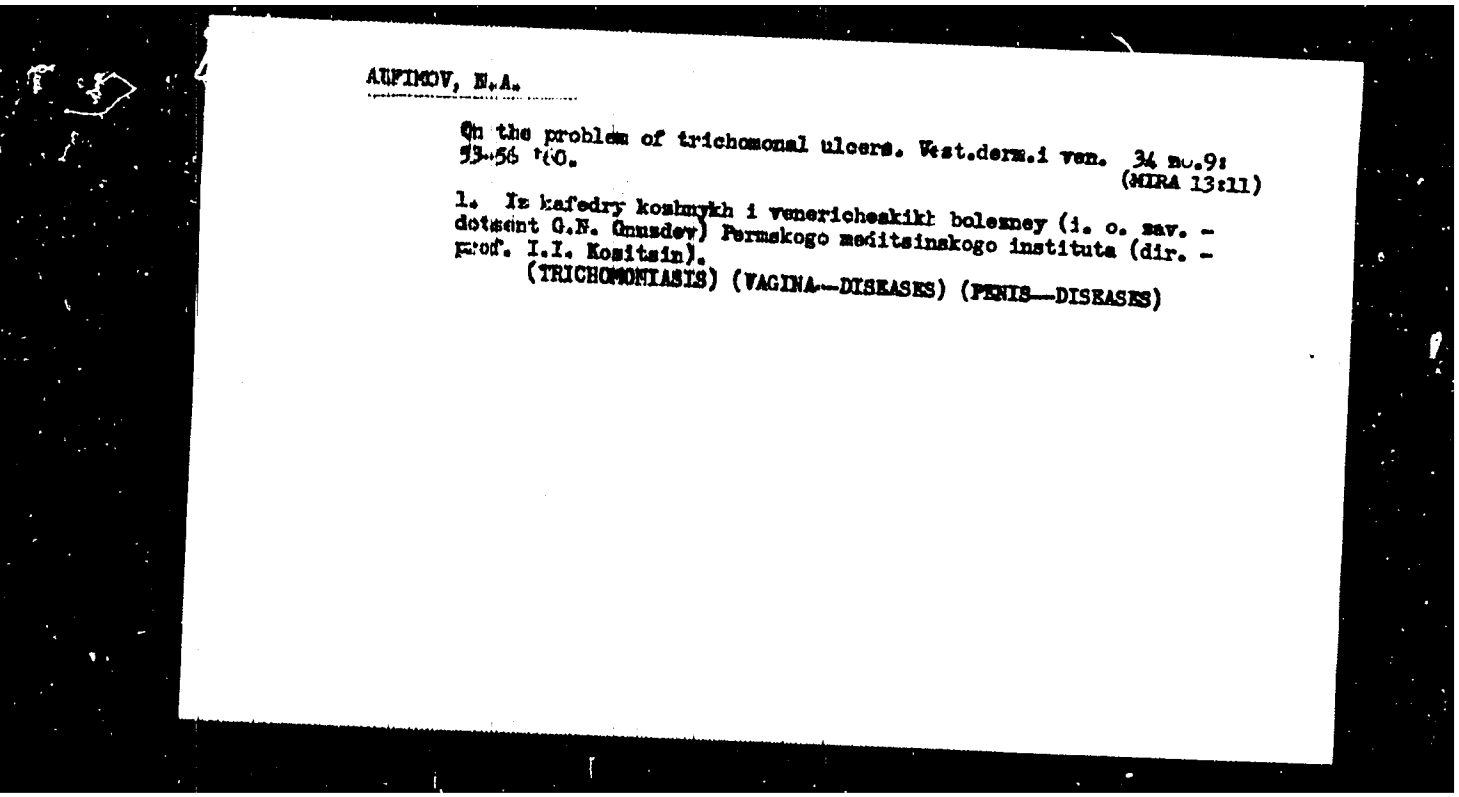




AUFIMOV, N.A.

On the problem of trichomonal ulcers. Vest.derm.i ven. 34 no.9: 53-56 '60. (MIRA 13:11)

1. Iz kafedry kozhnykh i venericheskikh bolezney (i. o. zav. - dotsent G.N. Gnusdev) Permskogo meditsinskogo instituta (dir. - prof. I.I. Kositsin).
(TRICHOMONIASIS) (VAGINA--DISEASES) (PENIS--DISEASES)

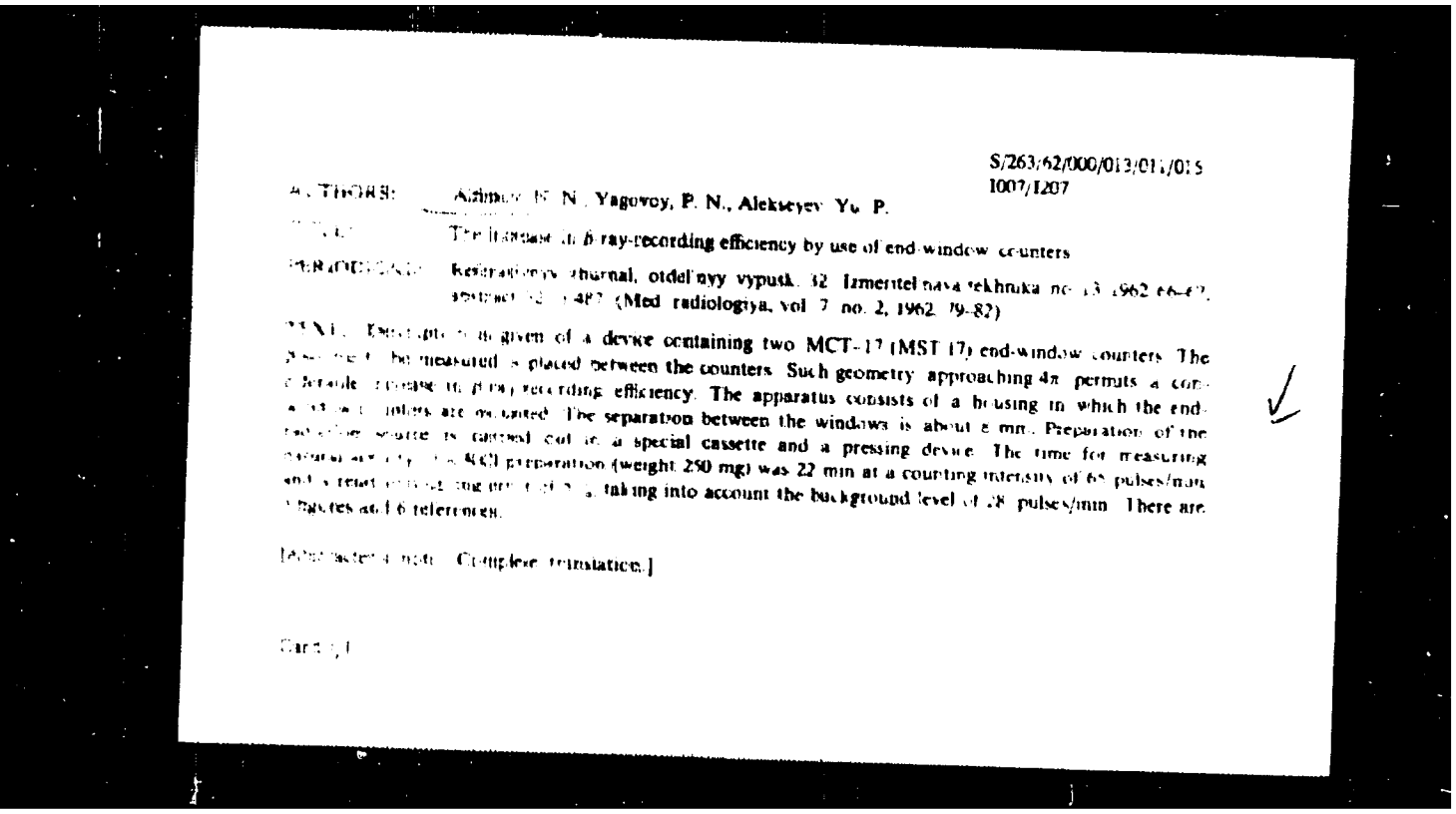
ALFIMOV, N.M.

Simple filtration apparatus for direct count of bacteria on membrane filters. Mikrobiologiia 29 no. 4:603-605 Jl-Ag '60.
(MIRA 13:10)

1. Voyenno-meditsinskaya akademiya imeni S.M. Kirova.
(BACTERIOLOGY—APPARATUS AND SUPPLIES)

ALFIMOV, N.M., inzh.

Cranes for construction of the underground part of residential buildings. Mekh. stroi. 20 no.6:19 Je '63. (MIRA 16:5)
(Cranes, derricks, etc.) (Precast concrete construction)



S/263/62/000/013/011/015
1007/1207

AUTHORS: Akimov, P. N., Yagovoy, P. N., Alekseyev, Yu. P.

TITLE: The increase in β-ray-recording efficiency by use of end-window counters

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika no. 13, 1962, 66-67, abstract 32 V487. (Med radiologiya, vol. 7, no. 2, 1962, 79-82)

TEXT: Description is given of a device containing two MCT-17 (MST-17) end-window counters. The β-emitter to be measured is placed between the counters. Such geometry approaching 4π permits a considerable increase in β-ray recording efficiency. The apparatus consists of a housing in which the end-window counters are mounted. The separation between the windows is about 8 mm. Preparation of the radioactive source is carried out in a special cassette and a pressing device. The time for measuring natural activity in a KCl preparation (weight 250 mg) was 22 min at a counting intensity of 68 pulses/min and a relative error of measurement of 3%, taking into account the background level of 28 pulses/min. There are 3 figures and 6 references.

[Abstracter's note: Complete translation.]

Card 1/1

ALFIMOV, N.N.

USSR/Biology - Bacteriology FD-1418

Card 1/1 : Pub. 73 - 7/11

Author : Alfimov, N. N.

Title : A comparative evaluation of methods of determining the quantity of bacteria in sea water

Periodical : Mikrobiologiya, 23, 6, 693-697, Nov-Dec 1954

Abstract : The relative effectiveness of sewing cultures on Meat-Peptone Agar or of direct observation as methods of determining the number of bacteria in sea water were investigated. A method of direct observation proposed by Razumov is considered most effective. Razumov's method is described. The results of the investigations are presented on four charts. Eight Soviet references and one non-Soviet reference are cited.

Institution : Naval Medical Academy, Leningrad

Submitted : January 1, 1954

ALFIMOV, N.N.

PROSHKINA-LAVRENKO, A.I.; ALFIMOV, N.N.

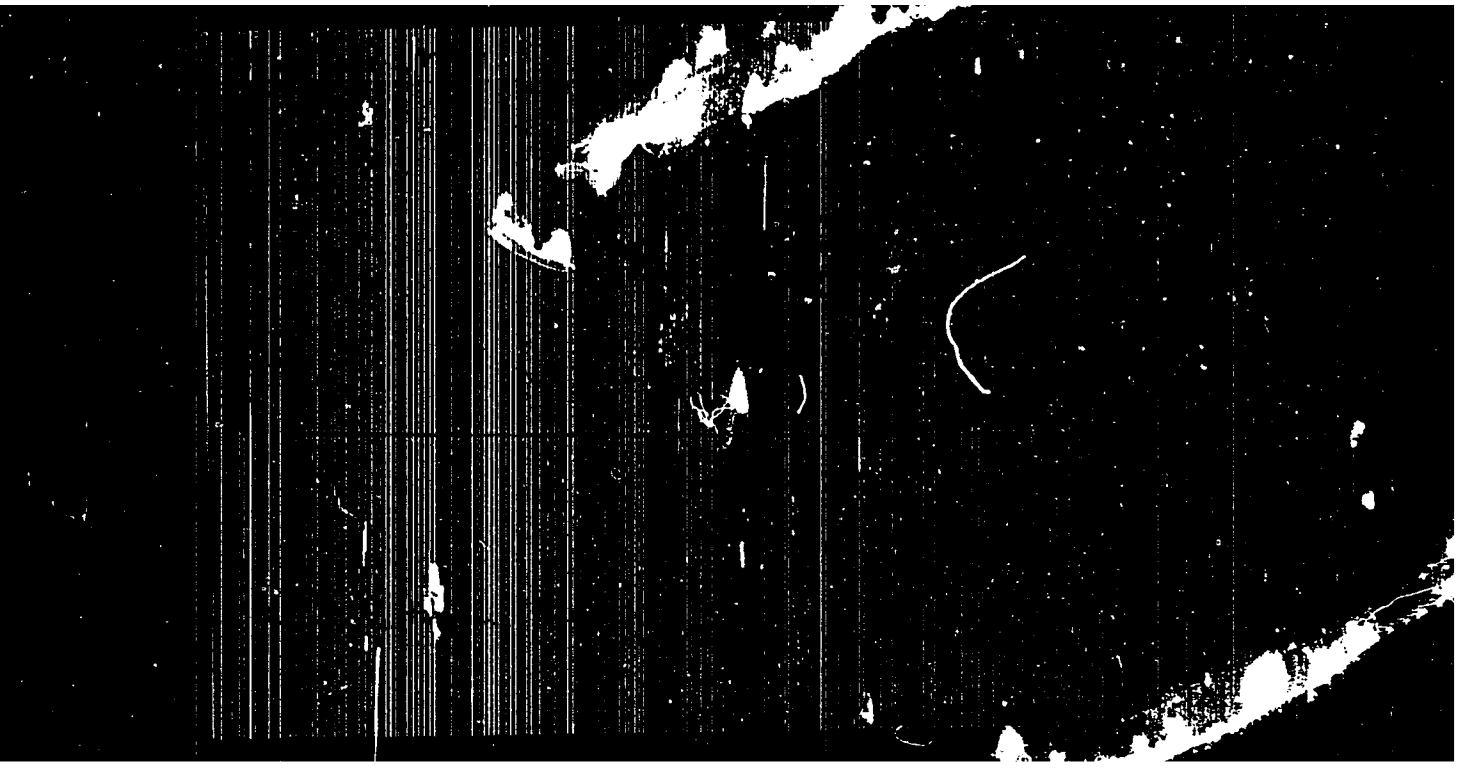
Utilization of diatomaceous algae in testing the sanitary condition of marine waters. Bot.zhur. 39 no.1:108-112 Ja-F '54. (MLRA 7:3)

1. Botanicheskiy institut im. V.L.Komarova Akademii nauk SSSR, Leningrad. (Algae) (Water--Analysis)

ALFIMOV, N.N.

Use of diatom cultures in estimating the degree of pollution of sea water. Bot.zhur.41 no.11:1673-1676 N '56. (MLRA 10:1)

1. Voyenno-morskaya meditsinskaya akademiya, Leningrad.
(Diatoms) (Sea water--Pollution)



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ALFIMOV, N.N.

USSR/Microbiology. Sanitary Microbiology. F-3

Abs Jour: Ref. Zhur.-Biol., No 7 1958, 28959.

Author : Alfimov, N.N.
Inst : Not given.
Title : Method of Determining the Hydrobiological Productivity Used for the Sanitary Evaluation of Sea Water in the Littoral Zone.

Orig Pub: Ob ispolzovanii metoda gidrobiologicheskoy proizvoditel-nosti dlya sanitarnoy otsenki pribrezhnykh morskikh vod. Botan. zh., 1957, 42, No 8, 1221-1224.

Abstract: No abstract.

Card : 1/1

ALFIMOV, N.N.; MIRONOV, O.G.

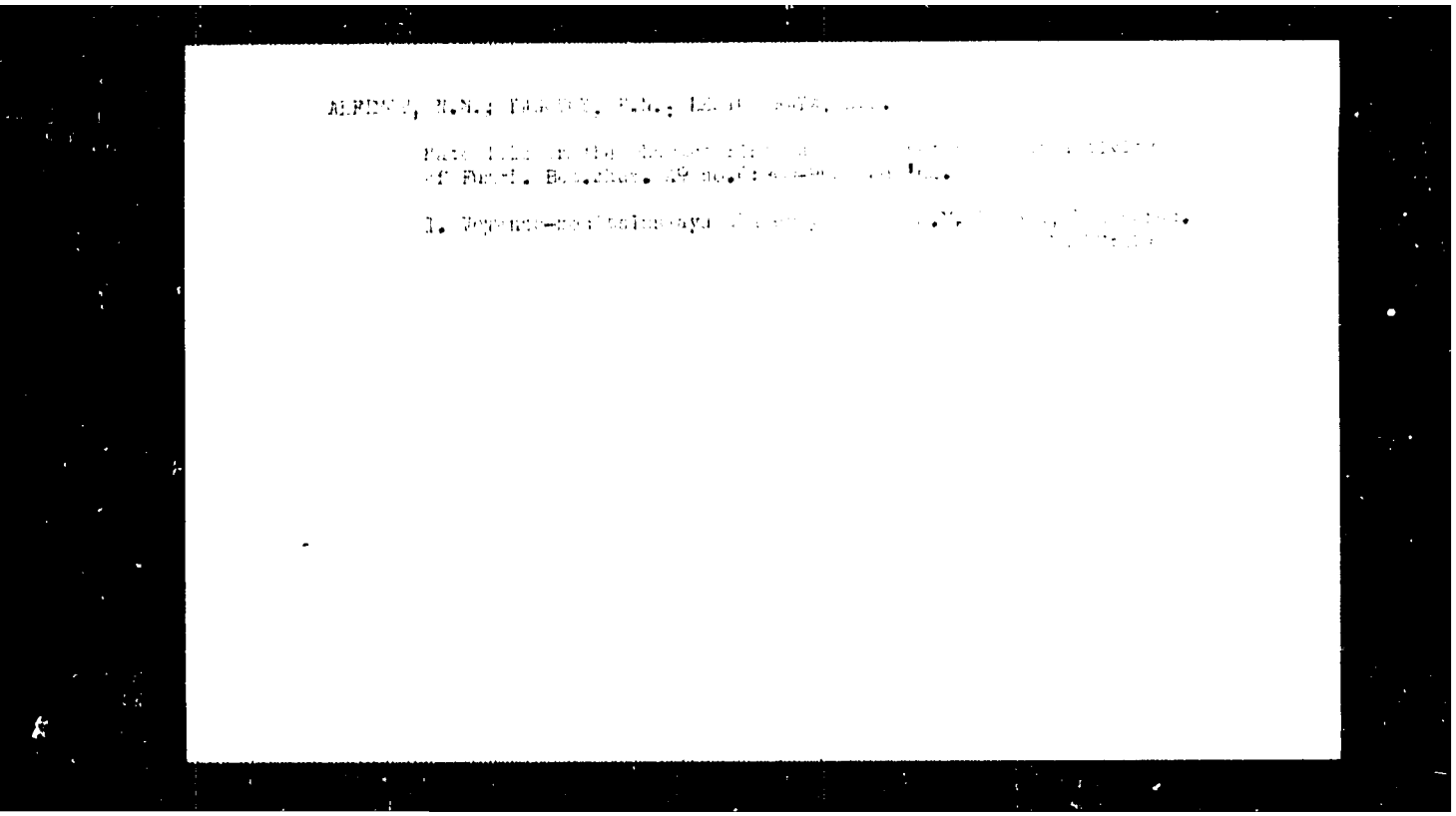
Influence of plankton diatoms of the river on some chemical indices of water pollution. Bot.zhur. 43 no.12:1763-1765 D '58. (MIRA 11:12)

1. Voyenno-meditsinskaya akademiya imeni S.M.Kirova, Leningrad.
(Fontanka Canal--Diatoms) (Water--Pollution)

ALFIMOV, N. N., YEREMEYEV, N. N., YAKOVENKO, V. A.

"Sanitary protection of sea water near maritime [illegible]."

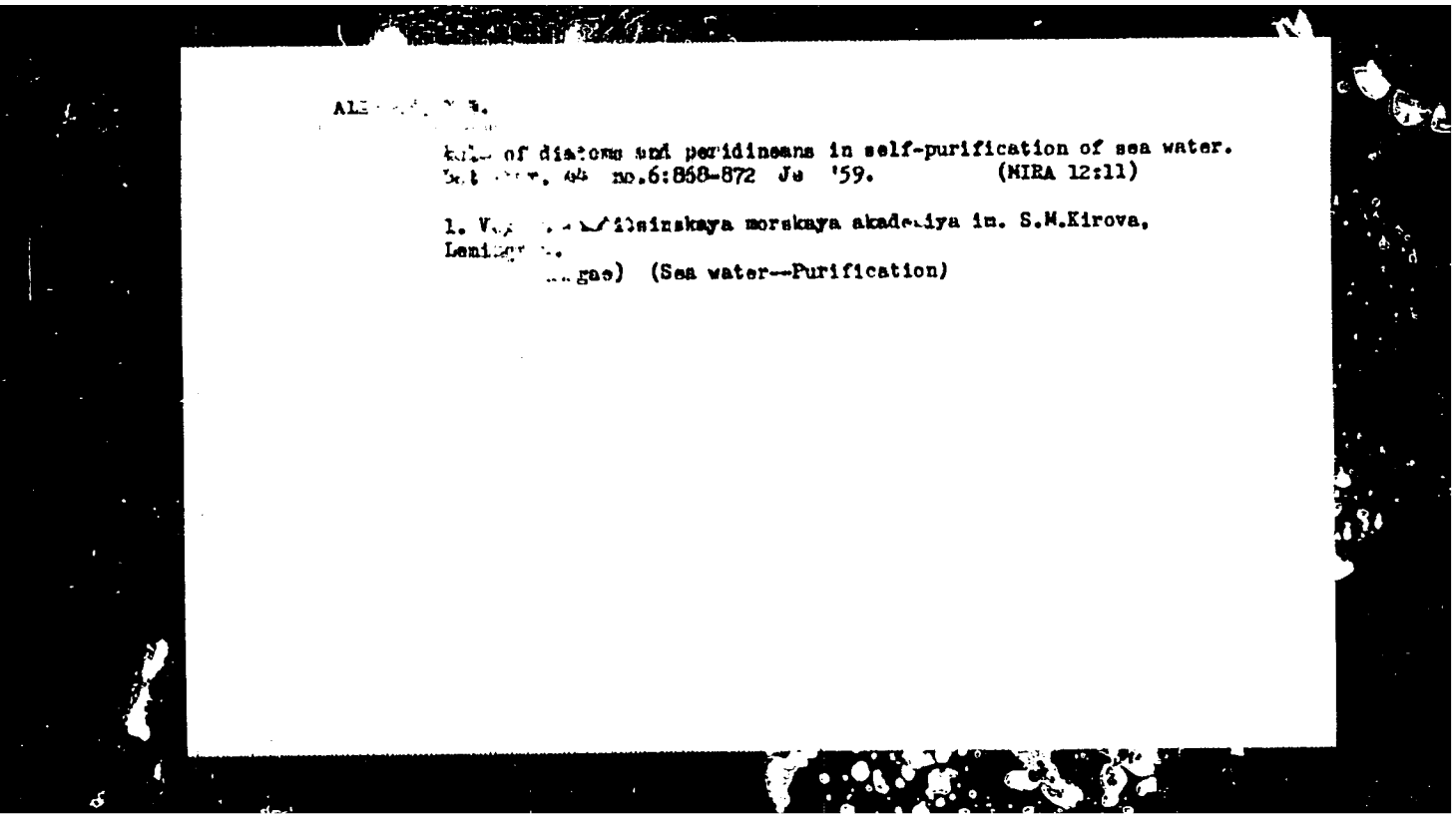
report submitted at the 13th All-Union Congress of Hygienists, [illegible] and Infectionists, 1959.



ALFINOV, N.N.; LESIOVSKIY, Ye.N.

Materials on the characteristics of natural radioactivity in some higher marine algae. Bot. zhur. 44 no.4:516-518 Ap '59.
(MIRA 12:10)

1. Voyenno-meditsinskaya akademiya im. S.M. Kirova, Leningrad.
(Algae) (Radioactivity)



AL[illegible]

[illegible] of diatoms and peridineans in self-purification of sea water.
[illegible], 44 no.6:868-872 Je '59. (MIRA 12:11)

1. V[illegible]ilainskaya morskaya akademiya im. S.M.Kirova, Leningrad.
[illegible]gae) (Sea water--Purification)

ALFIMOV, N.N., dotsent

Mixing of sewage with sea water. Gig. i san. 25 no.3:106-108 Mr '60. (MIRA 14:5)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(SEWAGE) (SEA WATER)

ALFIMOV, N.N.

Use of the foaming reaction to determine organic substances in sea water. Gig. i san. 25'no. 6:99 Je '60. (MIRA 14:2)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.
(SEA WATER—ANALYSIS)

ALFIMOV, N.N., dotsent; YAGOVOY, P.N., kand.med.nauk

Bactericidal action of chlorine in sea and fresh water. Gig.i san. 25 no.11:85-87 N '60. (MIRA 14:1)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(CHLORINATION)

ALPINOV, M.N.

Materials on the biochemistry of Cystoseira barbata (Good. et Wood.) Ag. from the Black Sea. Bot.zhur. 45 no.8:1196-1198 Ag '60. (MIRA 13:8)

1. Voyenno-meditsinskaya Akademiya im. S.M.Kirova, Leningrad.
(Black Sea--Algae--Chemical composition)

ALFIMOV, N.N., dotsent; MIRONOV, O.G.

Studies on bottom deposits in the evaluation of sanitary conditions of aquatoria. Gig.i san. 26 no.3:91-92 Mr '61. (MIRA 14:7)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(HARBORS—SANITATION)

ALFIMOV, N.N. (Leningrad)

Possible use of algal meal for raising the nutritive value of bread. Bot. zhur. 46 no.11:1650-1654 N '61. (MIRA 15:2)
(Algae as food)
(Bread)

ALFIMOV, N.N.; PROSEKINA-LAVRENKO, A.I.

Biology and biochemistry of Cladophora sivaschensis Meyer. Dokl.AN SSSR 136 no.1:230-232 Ja '61. (MIRA 14:5)

1. Botanicheskiy institut im. V.L.Komarova AN SSSR. Predstavleno akademikom V.N.Sukachevym.

(Sivash--Algae)

ALFIMOV, N. N.; YAGOVOY, P. N.; ALEKSEYEV, Yu. P.

Increasing the effectiveness of β radiation registration using end-type counters. Med. rad. no.2:79-82 '62.
(MIRA 15:7)

1. Iz kafedry voyenno-morskoy gigiyeny (nach. - dotsent N. I. Bobrov) Voyenno-meditsinskoy ordena Lenina akademii imeni S. M. Kirova.

(RADIOMETER)

ALFIMOV, N.N.; ALEKSEYEV , Yu.P.; AFANAS'YEV, B.G.; YAGOVOY, P.N.

Possibility of using universal radiometers of the "Fialka" and "Tisa" types for studying β-active preparations. Med.rad. no.3: 73-74 '62. (MIRA 15:3)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(RADIOMETER) (RADIOISOTOPES)

ALFIMOV, N.N.; YAGOVOY, P.N.; TIKHOMIROV, V.P.

Natural radioactivity of leaves in some woody plants. Bot. zhur. 48 no.5:724-726 My '63. (MIRA 17:1)

1. Voyenno-meditsinskaya Akademiya imeni S.M. Kirova, Leningrad.

ACCESSION NR: AP4020340 S/0089/64/016/003/0264/0266

AUTHORS: Alfimov, N.N.; Yagovoy, P.N.; Novozhilov, G.N.

TITLE: Results of research on total beta activity of water and air in some areas of the Pacific Ocean

SOURCE: Atomnaya energiya, v. 16, no. 3, 1964, 264-266

TOPIC TAGS: beta activity, water, air, Pacific Ocean, radioactive fallout Pacific Ocean beta activity, Pacific Ocean radioactive fallout

ABSTRACT: The purpose of this work is to provide data which characterizes the β activity of water in the Pacific Ocean at different latitudes. Samples of several liters of sea water were taken from the ocean surface. Immediately after sampling, temperature and water salinity were measured. It was found that the average specific activity of the water north of 31°30', the north latitude is 16.6 x 10-11 curie/liter l, and the south is 28.2 x 10-11 curie/liter l. Determinations were made of specific activity of

Card 1/2

ACCESSION NR: AP4020340

sea water at periods with high and low density of radioactive fallout from the atmosphere. The relation is determined between density of radioactive fallout and specific water activity, making it possible to establish the influence of wind direction on amount of fallout. Radioactive fallout reaches its peak with southeastern winds and is lowest with northwestern winds during which the density of radioactive fallout did not correspond to frequency of wind recurrence. Orig. art. has: 2 tables, 1 figure.

ASSOCIATION: None

SUBMITTED: 06May63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: NS, PH NO REF SOV: 002 OTHER: 009

Card 2/2

ALFIMOV, N.N.; MATUZOV, N.I.; YAGOVOY, P.N.

Studying the radioactivity of the air and water in the Atlantic Ocean, Black Sea, and Caspian Sea. Atom. energ. 17 no.4:309-310 O '64. (MIRA 17:10)

ALPIMOV, N.N.; YAGOVOY, P.N.; ABASKALOV, Ye.A.

Method for the concentration of the activity of biological materials under field conditions. Lab. delo no.3:156-159 '65. (MIRA 18:3)

1. Kafedra voyenno-morskoy i radiatsionnoy gigiyeny (nachal'nik - prof. M.I. Bobrov) Voyenno-meditsinskoy ordena Lenina akademii im. S. M. Kirova, Leningrad.

L 09112-67
ACC NR: AT6029625 (A) SOURCE CODE: UR/0205/66/006/004/0601/0604

AUTHOR: Alfimov, N. N.; Ingovoy, P. N.; Tikhomirov, V. P.

ORG: Academy of Military Medicine im. S. M. Kirov, Leningrad (Voyenno-meditsinskaya akademiya)

TITLE: Materials and characteristics of natural radioactivity in leaves from tree and shrub varieties growing in botanical gardens of the European part of the SSSR

SOURCE: Radiobiologiya, v. 6, no. 4, 1966, 601-604

TOPIC TAGS: radioactivity, plant metabolism, isotope, atmospheric radiation, beta radiation, potassium

ABSTRACT: The study was conducted from June to August 1960 on 85 species of leaves; 200-300 g were dried, pulverized and transformed into a sol and then subjected to counting (end window counter). Beta radiation due to K^{40} content was also determined in the sol. The botanical gardens were located in Leningrad, Nikitsk, Sochi, Sukhumi, Batumi and Baku. According to results, 2 groups were distinguished with activities of $> 20.10^{-9}$ curie/kg and $< 20.10^{-9}$ curie/kg. More than 2/3 of the species studied in Leningrad, Nikitsk, Sochi and Batumi and all of the species in Sukhumi and Baku had an activity below the above value. In the overwhelming majority of the species, activity due to K^{40} was 33-66% of the total activity. The rest was due to other

Card 1/2 UDC: 58.039.1

L 09412-67
ACC NR: AP6029425 O

isotopes. Orig. art. has: 3 figures and 1 table.

SUB CODE: 06, 07, 18/ SUBM DATE: 04Jun65/ ORIG REF: 009/ OTH REF: 003

Card 2/2

ALFIMOV, Yuriy Vyacheslavovich; FAL'SKIY, V., red.; NAZAROVA, A., tekhn. red.

[The steps from the equator] Do ekvatora dva shaga. Moskva, Izd-vo "Znanie," 1963. 63 p. (MIRA 16:9)
(Far East—Description and travel)

ALEKHOVA, A. V., Palimpsov, M. A., Ostashevskiy, A. G., Fortushnyy, V. A.

"The Influence of Physical and Chemical Factors on Mange Ticks in Environment"

Veterinariya, No. 10, 1950, p. 38, Uncl.

1. ALFIMOVA, A. V.

2. USSR (600)

4. Mites

7. Studying the morphological peculiarities of the mite of itching mange on swine (Acarus siro var.suis). Nauch. trudy UIEV No. 18 - 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

ALFIMOVA, A.V.

USSR / Zooparasitology - Acarina and insect-vectors of G
disease pathogens

Abs Jour: Ref Zhur - Biol., No 7, 1958, 29127

Author : Alfimova, A.V.
Inst : Not given
Title : Life Expectancy of Swine Mangy Itch Vectors in External Medium. (Prodolzhitelnost zhizni vozbuditelya zudnevoy chesotki xviney vo vneshney srede)

Orig Pub: Nauchn. tr. Ukr. in-t eksperim. vet., 1956, 23, 287-302

Abstract: An investigation was conducted on life expectancy at all stages of development of Acarus siro var suis outside the hosts' body, and

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USSR / Zooparasitology - Acarina and insect-vectors of G
disease pathogens

Abs Jour: Ref Zhur - Biol., No 7, 1958, 29127

Abstract: their resistance to different temperatures--
low negative ones (from --5° to --20°), and positive ones (from 1° to 30°); also the percentage of destruction of these acarina from action of hot air (45° to 100°) and hot water (50° to 100°). Resistance of swine mange to action of different factors of the external medium varies depending on the stage of mite development. The results of investigations serve as a basis for finding new effective remedies for swine mange control.

Card 2/2

ALFIMOVA, A.V.

USSR / Zooparasitology. Ticks and insect-vectors of disease pathogens G-3

Abs Jour : Referat.Zh.Biol., No 2, 1958, 5429

Author : Kolomiets, Yu. S., Alfimova, A.V.

Inst : Not given

Title : Biological Properties of Oestrus ovis L. in Environments of the Ukraine.

Orig Pub : Nauchn. tr. Ukr. in-ta eksperim. vet., 1956, 23, 309-316

Abstract : In the Ukraine two generations of sheep gadfly develop, for in some districts (Kharkov, Nikolaev) larvae of age III were found in July and the beginning of August on lambs born in the current year. In 8,34% of liverstock more than 100 larvae per sheep were observed. The maximum noted was 312 larcae in 1 sheep. The larvae are found in head cavities

Card 1/2

USSR / Zooparasitology. Ticks and insect-vectors of disease pathogens G-3

Abs Jour : Referat.Zh.Biol., No 2, 1958, 5429

Abstract : of sheep the year round. A considerable portion die in age I; ~4% of larvae reach age III.

Card 2/2

USSR / Diseases of Farm Animals. Diseases Caused by Protozoa. R

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 101397

Authors : Kolomiyets, Yu. S.; Alfimova, A. V.; Yemets, M. I.
Inst : Ukrainian Scientific Research Institute of Experimental Veterinary Medicine.
Title : The Diagnosis of Trichomoniasis in Cattle.

Orig Pub : Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t eksperim. veterinarii, 1957, No. 3, 19-21.

Abstract : Comparative studies of microscopic and culture methods in which washings from vaginal mucosa and preputial sacs were examined in order to establish the presence of trichomoniasis, proved that the culture methods are considerably superior. Allergic reactions were also tested. The water extract from centrifugally dried trichomonads of the culture broth was used as allergen. The allergen was intracutaneously injected in a 0.5 ml. dose into the shoulder blade

Card 1/2

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 101397.

area. After 1 - 3 hours, the skin fold thickened in animals suffering from trichomoniasis by 5 mm. and more, and edema developed at the site of the allergen injection which covered an area of 30 x 40 cm. In healthy animals, thickening of the skin fold did not exceed 4 mm. and edema was absent. -- M. F. Panchenko.

USSR/Diseases of Farm Animals - Diseases Caused by Protozoa R

Abs Jour : Ref Zhur Biol., No 5, 1959, 21432

Author : Koloniyets, Yu.S., Alfimova, A.V., Yemets, M.I.

Inst : -

Title : The Diagnosis of Trichomoniasis in Cattle.

Orig Pub : Sots. tvarinnitstvo, 1958, No 2, 49-51

Abstract : The microscopic cultural and allergic methods of diagnosing the disease are described. The allergic method proved to be best. Allergen was intracutaneously injected in a 0.5 ml dosage.

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25(2) PHASE I BOOK EXPLOITATION SOV/2803

Alfimova, Irina Alekseyevna, Polina Moiseyevna Blekher, and Antonina Ivanovna Zhytneva

Sbornik zadach po tokarnomu delu (Collection of Problems on Lathe Operation) 3rd ed., rev. and enl. Moscow, Trudrezervizdat, 1959. 194 p. 25,000 copies printed.

Scientific Ed.: V.M. Pastukhov; Ed.: F.V. Rogachev; Tech. Ed.: Yu.N. Gorokhov.

PURPOSE: This manual is intended for trade-school students and it may also be used in training lathe operators on an individual basis or in groups.

COVERAGE: This book contains problems and practical exercises for training lathe operators, especially to increase production during the Seven-Year Plan, 1959 - 1965. The training program starts with the machining of simple cylindrical surfaces and proceeds to the machining of complex shapes requiring special setups and the use of various accessories. In several instances the problems involve the preparation of drawings. This training program is designed to

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train young operators to work on their own and to acquire the necessary skill to operate modern equipment. There are numerous illustrations showing parts to be machined and schematic drawings explaining the necessary setups for a given job. Basic principles of efficient work organization and time study concepts are explained. No personalities are mentioned. There is no bibliography.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TT207.A45 1959)

Card 4/4

GO/gmp
1-25-60

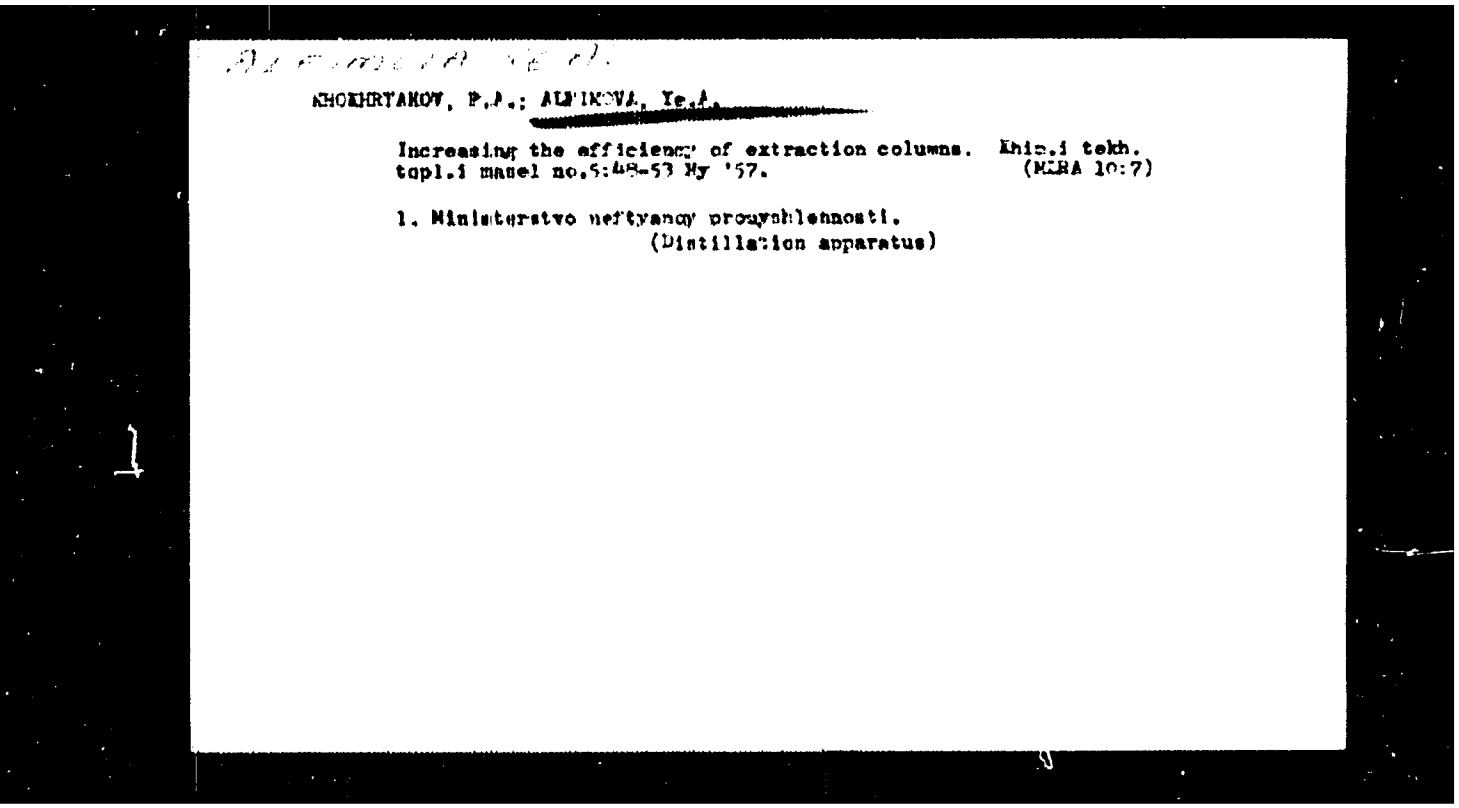
SHILYAKOV, Nikolay Ivanovich; ALFIMOVA, I.A., nauchnyy red.; TIKHONOVA, N.V., red.; BARANOVA, N.N., tekhn. red.

[Laboratory work on lathes]Laboratornye raboty po tokarnomu delu. Moskva, Proftekhizdat, 1962. 127 p. (MIRA 16:3)
(Turning)

SOROKIN, Nikolay Yakovlevich; ALPIMOVA, I.A., nauchn. red.; TIKHONOVA, N.V., red.; DOMODNOVA, L.A., tekhn. red.

[Teaching special turning technology in a school] Prepodavanie spetsial'noi tekhnologii tokarnogo dela v uchilishche. Moskva, Proftekhizdat, 1962. 61 p. (MIRA 16:12)

1. Prepodavatel' tekhnicheskogo uchilishcha No.14 Leningrada (for Sorokin).
(Turning--Study and teaching)



KHOKHRYAKOV, P.A.; ALEKSEYEVA, Ye.A.

Increasing the efficiency of extraction columns. Khim.i tekh. topl.i masel no.5:48-53 My '57. (MLRA 10:7)

1. Ministerstvo neftyanoy promyshlennosti.
(Distillation apparatus)

SOV/81-59-16-58506

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, pp 410-411 (USSR)

AUTHORS: Agafonov, A.V., Yudina, V.L., Alfimova, Ye.A., Pazhitnov, V.N.

TITLE: On the Technology of the Production of Oils From Secondary Raw Material

PERIODICAL: Tr. Vses. n.-i. in-t po pererabotke nefti i gaza i polucheniyu iskusstv. zhidk. topliva, 1958, Nr 7, pp 202-221

ABSTRACT: Several variants of obtaining lubrication oils (LO) from the fraction (b. p. 330 - 480°C) of catalytic cracking (FCC) of heavy raw material by means of hydrogenation, selective purification, deparaffination, secondary distillation and final contact purification have been studied. In the best variant FCC is hydrogenated at high pressure (300 atm), deparaffinated by carbamide, distilled and purified by contact; in this case LO with a b. p. of 330 - 400°C was obtained (viscosity ~3 centistokes at 100°C and index of viscosity (IV)~60) and a LO with a b. p. of 400 - 480°C (viscosity ~5 centistokes at 100°C and IV ~100), the total yield of LO being 59 - 62%; the LO were stable (method of VTI) and had iodine numbers < 2. Based on the same variant LO was obtained from FCC with a b. p. of 330 - 480°C which after thickening by 0.7% polyisobutylene (viscosity after thickening 6 centistokes at 100°C, IV > 100) was subjected to a 100-hour test in a

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On the Technology of the Production of Oils From Secondary Raw Material

GAZ-51 engine. According to the test results it did not differ from the commercial Baku SU oil. According to the calculation the prime cost of LO from FCC is lower than that of directly distilled LO with selective purification. At catalytic cracking of residual raw material the LO yields are higher than those of directly distilled LO and in the cracking gases enough H_2 is formed for the hydrogenation of FCC. The developed technology for obtaining LO from FCC is applicable also to the preparation of LO from direct-flow distillates.

A. Ravikovich.

LEVIN, A.I.; CHZHAN GO-KHEN [Chang Kuo-hêng]; ALFIMOVA, Ye.A.

Investigating the electrorefining of tin with use of sulfamine electrolytes. Izv. vys. uchob. zav.; tsvet. met. 4 no. 1:88-95 '61. (MIRA 14:2)

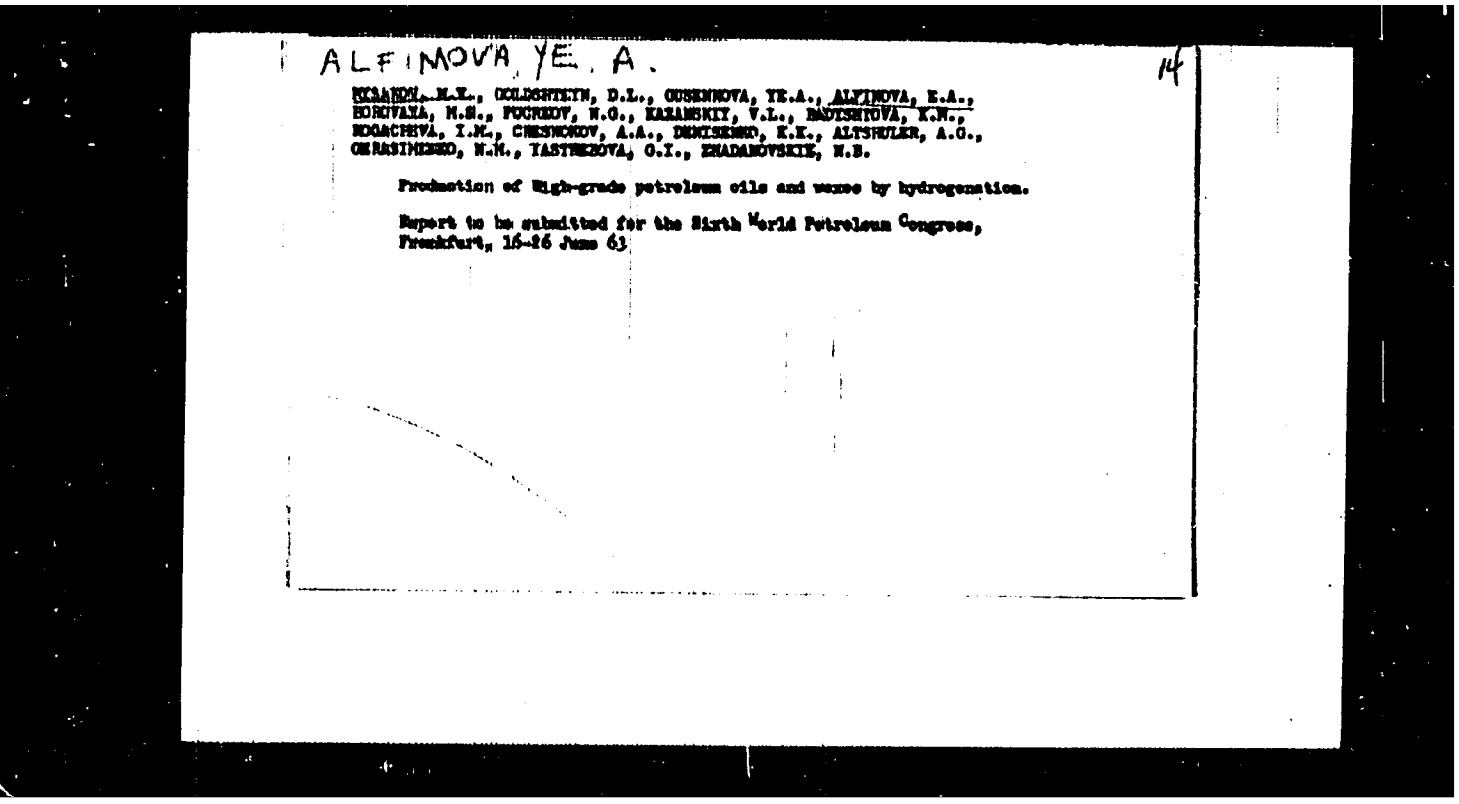
1. Ural'skiy politekhnicheskiy institut, kafedra tekhnologii elektrokhimicheskikh proizvodstv.
(Tin--Electrometallurgy) (Sulfamine)

ALFIMOVA, YE.A. 5

AGAFONOV, A.V., RYBAKOV, K.V., GOLDSHTEYN, D.L., GUSENKOVA, YE.A., ALFIMOVA, YE.A., POSHITKOV, V.N.,

Gewinnung von Motorenolen aus schwefelhaltigen Rohelen durch Hydrierung.

Report to be submitted for the Symposium Lubricants and Lubrication, Dresden, 27-30 June 1961



ALFIMOVA, YE. A.

14

KIRAKOSI, M.K., GOLDSHTEYN, D.L., GUSEINOVA, YE.A., ALFIMOVA, E.A., KORCVAYA, M.N., POCHKOV, N.G., KAZANSKIY, V.L., BADISHKOVA, K.N., NOGACHEVA, I.M., CHESNOKOV, A.A., DENISENKO, K.K., ALTSHULER, A.G., GERASIMENKO, N.M., YASTREBOVA, O.I., ZHADANOVSKIY, N.S.

Production of High-grade petroleum oils and waxes by hydrogenation.

Report to be submitted for the Sixth World Petroleum Congress, Frankfurt, 16-26 June 63

S/126/61/012/005/027/028
E040/E435

AUTHORS: Ovsiyenko, D.Ye., Alfintsev, G.A.

TITLE: Effect of solidification conditions and some impurities on the structure and plasticity of cast chromium

PERIODICAL: Fizika metallov i metallovedeniye, v.12, no.5, 1961, 779-782

TEXT: The purpose of the investigation was to examine the possibility of reducing the brittleness of cast chromium by modification of its grain structure rather than by the usual means of achieving the same purpose by the removal of impurities and thermo-mechanical treatment. The grain size was modified by varying the conditions of chromium crystallization and by introduction of boron, beryllium and tantalum additions, which form with chromium high melting point compounds (CrB_2, Cr_2Ta and CrBe) as well as nitrides and carbides and can therefore facilitate the formation of crystallization centres and thereby affect the cast structure of chromium. The tests were made on electrolytic chromium containing 0.003% O, 0.006% N, 0.08% Fe and 0.05% Si. Cylindrical test specimens were cast by melting

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Effect of solidification conditions ...

150 to 200 g batches of chromium in a high-frequency electric furnace using aluminium oxide or beryllium crucibles. The furnace was evacuated to 10^{-4} to 10^{-5} mm Hg, the charge was heated to 1000 to 1200°C and maintained in this temperature range for 2 to 3 hours, after which the furnace was filled in with purified argon and heated to the melting point of chromium. The charge was maintained for 15 to 20 min in the molten state and then cast into copper moulds. The alloying additions were in the form of 3% mono-phase solid solutions of chromium with the required metals. The test specimens contained from 0 to 0.2% by weight of the alloying additives. Specimens for microstructural examination were etched with a solution consisting of 50 ml HCl and 100 ml ethyl alcohol at 60°C. Test specimens 2 x 4 x 26 mm cut from the cast cylinders, were used for determining the bending strength and the transition temperature from the brittle into ductile state. Before testing, the specimens were annealed for 2 to 3 hours at 1100°C under vacuum of 10^{-4} to 10^{-5} mm Hg.

In order to remove surface porosity, the specimens were polished electrolytically in an electrolyte consisting of

Card 2/5

a mixture of orthophosphoric acid (65%), sulphuric acid (21%) and 14% water using a current density of 3 amp/cm^2. Bending tests were carried out at the deformation rate of 25 mm/min. The transition temperature from the brittle into the ductile state was taken to correspond to the test temperature at which the bending was 90°. The grain size of cast structure was found to diminish with rising rate of cooling. Tantalum and beryllium additions have little effect on the cast structure of chromium and, at all additive concentrations, the ratios of crystallization zones and grain size are approximately the same as in pure chromium. Boron has a strong effect on the structure of cast chromium whose grain size diminishes very considerably even at an addition of 0.02% and diminishes still further at higher concentrations, the maximum effect corresponding to 0.1% B addition. Bending test data on pure and alloyed chromium are shown graphically. It was found that in pure chromium the temperature of brittle-ductile transition drops with diminishing grain size. Boron addition increases appreciably the transition temperature, which rises with increasing boron concentration. Tantalum additions, up to 0.1% by wt, lower the transition temperature, while higher

Ta additions increase it. Be has a similar effect although there is a quantitative difference in that the lowest transition temperature is much lower and the Be concentration corresponding to it (0.007%) is only a tenth of the respective Ta addition. The general conclusions are than with diminishing grain size, the ductility increases in pure chromium and, conversely, it drops in chromium alloyed with boron. Alloying with beryllium and tantalum gives coarse-grained chromium but its ductility is higher than that of even finest-grained pure chromium. Consequently, in alloyed chromium the ductility depends also on factors other than its structure, e.g. the interaction of the alloying additives with impurities present in chromium, their distribution and influence on the properties of grains and grain boundaries etc. Nevertheless test data obtained on pure chromium indicate that at a given concentration of an alloying additive the resulting structural change should have some effect on the ductility properties. There are 3 figures and 8 references: 2 Soviet bloc, 5 Russian translations from non-Soviet-bloc work and 1 non-Soviet bloc. The reference to an English language publication reads as follows:
Ref 5: Abrahamson E P, Grant N J, Trans. ASM, 1958, 50, 705.
Card 4/5

S/126/61/012/005/027/028
Effect of solidification conditions ... E040/E435

ASSOCIATION: Institut metallofiziki AN UkrSSR
(Institute of Physics of Metals AS UkrSSR)

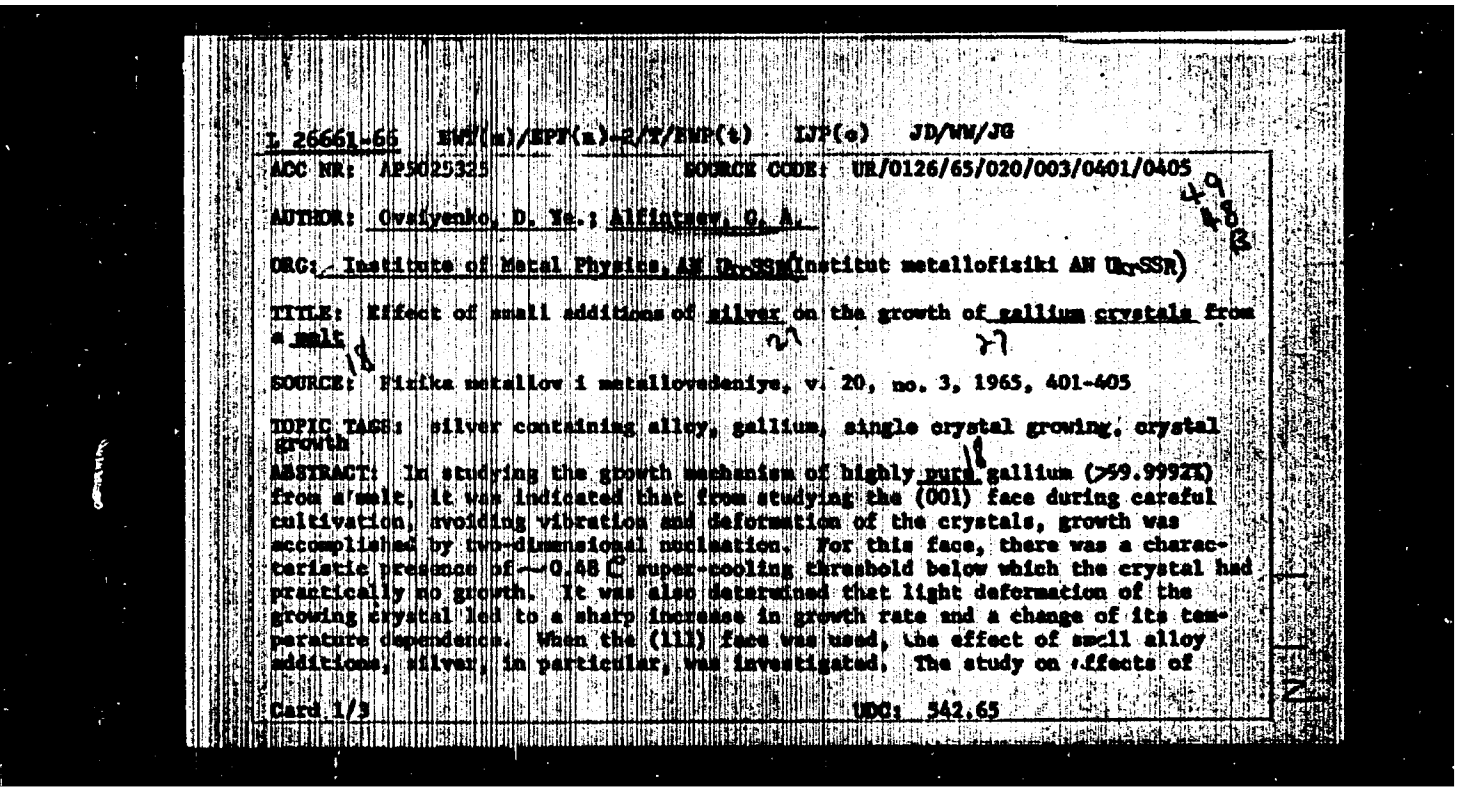
SUBMITTED: February 25, 1961

Card 5/5

OVSIYENKO, D.Ye.; ALFINTSEV, G.A.

Mechanism of the growth of [illegible]lol crystals from the melt. Kristalografiia 8 no.5:796-799 S-O '63. (MIRA 16:10)

1. Institut metallofiziki AN UkrSSR.



L 26661-65 EWT(m)/EPF(n)-2/T/EWP(t) IJP(c) JD/WW/JG

ACC NR: AP5025325 SOURCE CODE: UR/0126/65/020/003/0401/0405

AUTHOR: Ovsiyenko, D. Ye.; Alfintsev, G. A.

ORG: Institute of Metal Physics, AN Ukr SSR (Institut metallofiziki AN UkrSSR)

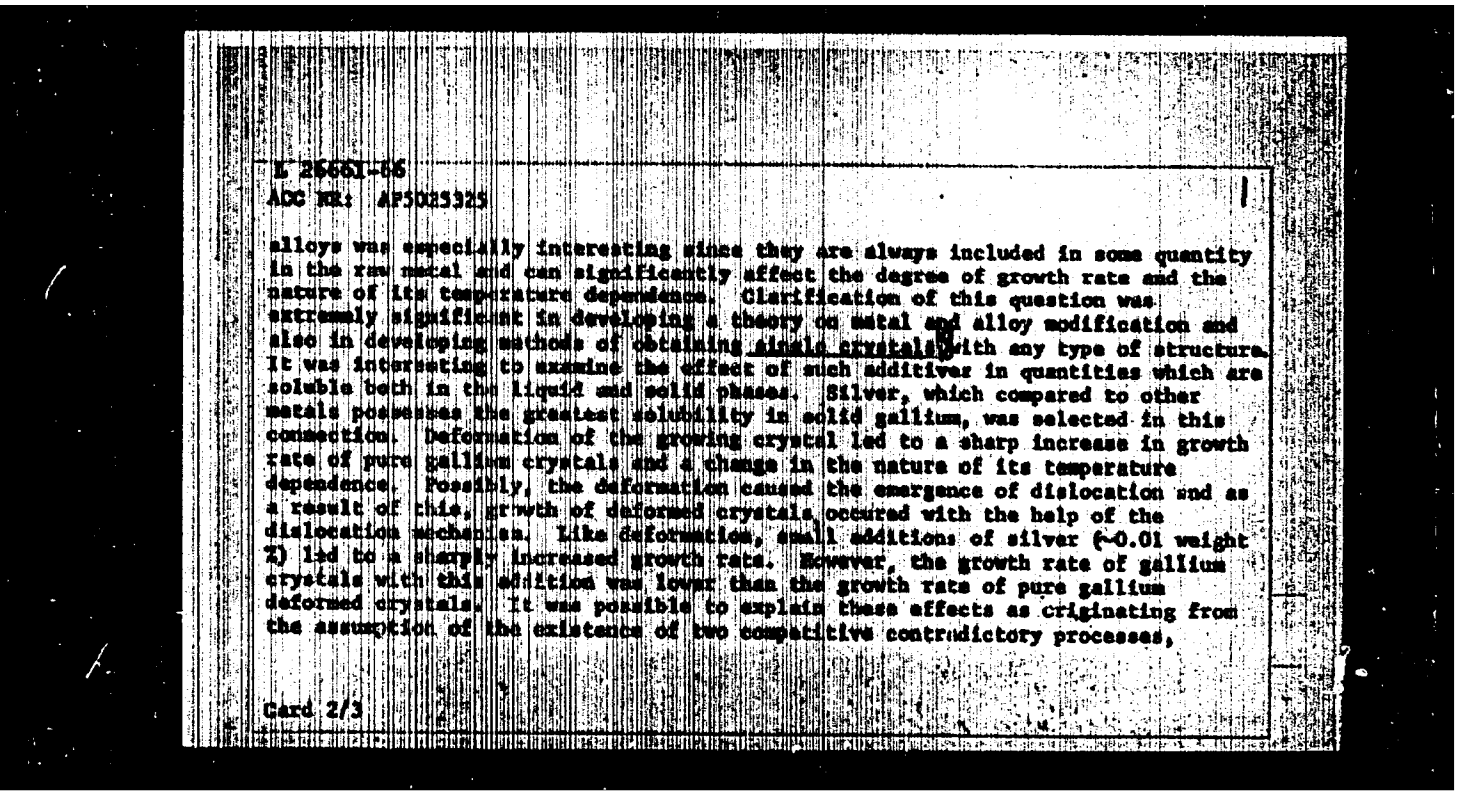
TITLE: Effect of small additions of silver on the growth of gallium crystals from a melt

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 3, 1965, 401-405

TOPIC TAGS: silver containing alloy, gallium, single crystal growing, crystal growth

ABSTRACT: In studying the growth mechanism of highly pure gallium (>99.9992%) from a melt, it was indicated that from studying the (001) face during careful cultivation, avoiding vibration and deformation of the crystals, growth was accomplished by two-dimensional nucleation. For this face, there was a characteristic presence of ~0.48°C super-cooling threshold below which the crystal had practically no growth. It was also determined that light deformation of the growing crystal led to a sharp increase in growth rate and a change of its temperature dependence. When the (111) face was used, the effect of small alloy additions, silver, in particular, was investigated. The study on effects of

Card 1/3 UDC: 542.65



L 26661-66
ACC NR: AP5025925

alloys was especially interesting since they are always included in some quantity in the raw metal and can significantly affect the degree of growth rate and the nature of its temperature dependence. Clarification of this question was extremely significant in developing a theory on metal and alloy modification and also in developing methods of obtaining single crystals with any type of structure. It was interesting to examine the effect of such additives in quantities which are soluble both in the liquid and solid phases. Silver, which compared to other metals possesses the greatest solubility in solid gallium, was selected in this connection. Deformation of the growing crystal led to a sharp increase in growth rate of pure gallium crystals and a change in the nature of its temperature dependence. Possibly, the deformation caused the emergence of dislocation and as a result of this, growth of deformed crystals occured with the help of the dislocation mechanism. Like deformation, small additions of silver (~0.01 weight %) led to a sharply increased growth rate. However, the growth rate of gallium crystals with this addition was lower than the growth rate of pure gallium deformed crystals. It was possible to explain these effects as originating from the assumption of the existence of two competitive contradictory processes,

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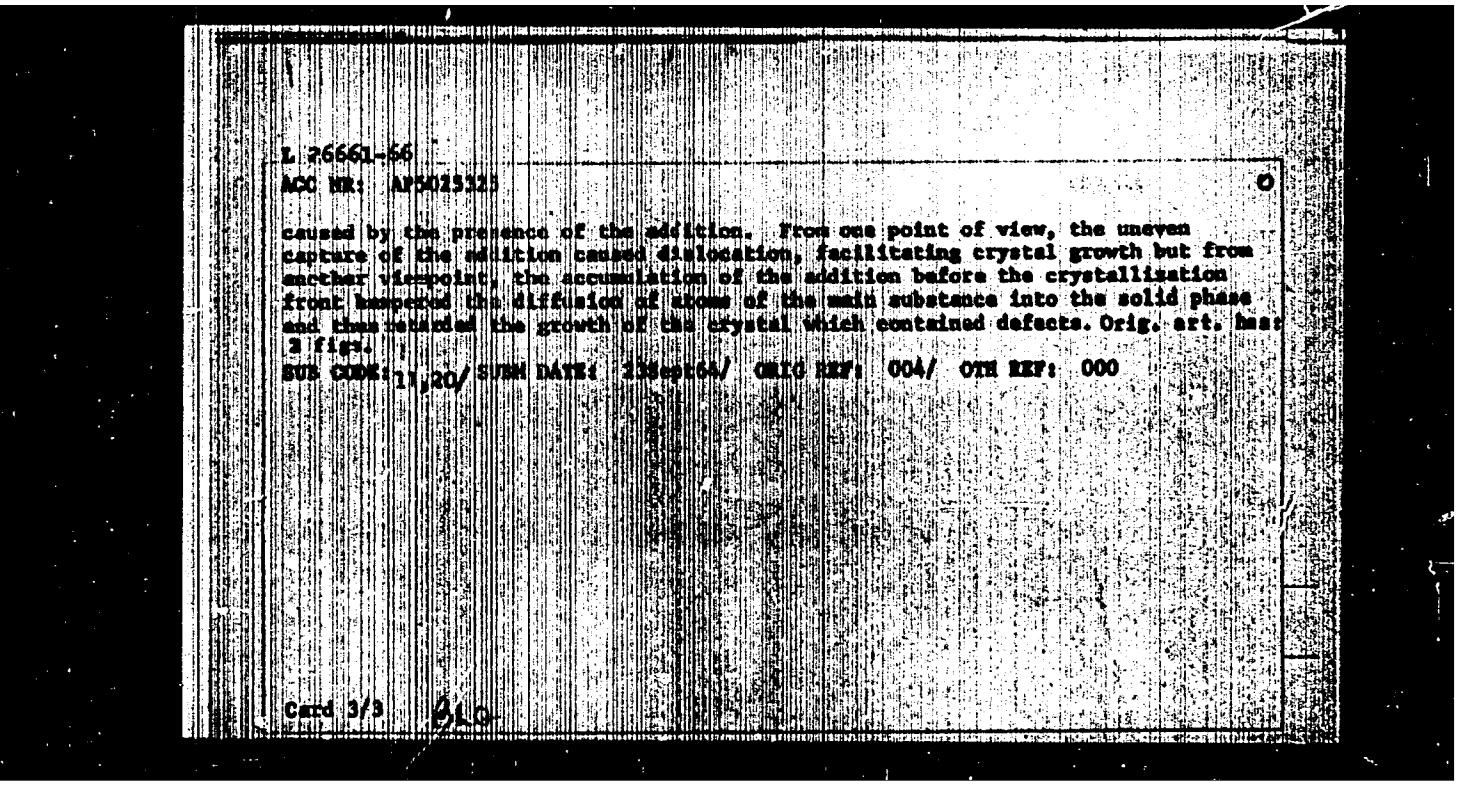


L 26661-66
ACC NR: AP5025323 O

caused by the presence of the addition. From one point of view, the uneven capture of the addition caused dislocation, facilitating crystal growth but from another viewpoint, the accumulation of the addition before the crystallization front hampered the diffusion of atoms of the main substance into the solid phase and thus retarded the growth of the crystal which contained defects. Orig. art. has: 2 figs.

SUB CODE: 11,20/ SUBM DATE: 23Sept64/ ORIG REF: 004/ OTH REF: 000

Card 3/3 BLG

S/601/62/000/014/012/012
1003/1203

AUTHORS: Ovsiyenko, D. E., and Alfintsev, G. A.

TITLE: The influence of conditions of solidification and of the additions of boron and tantalum on the structure and on the plasticity of cast chromium

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot, no. 14. Kiev, 1962. Voprosy fiziki metallov i metallovedeniya, 139-146

TEXT: In recent years many investigators have tried to determine the causes of the brittleness of chromium. The chromium samples were smelted in vacuum either in an aluminum oxide or beryllium melting pot, and bottom-poured into a copper mold. As shown by the results the addition of from 0.005 to 0.1 % of boron leads to a fine-grained structure, while tantalum has no effect under identical conditions of solidification. The dependence of the mechanical properties of chromium on its grain size is as follows: the reduction of grain size from 800 to 250μ decreases the temperature at which the metal acquires plasticity from 150°C to 105°C, and the hardness from 150 to 115 kg/mm². The addition of 0.05 to 0.1 % of boron increases the temperature at which chromium acquires plasticity by 150 to 200°C, but has little influence on the hardness, while the addition of 0.1 % of Ta decreases the above plasticity limit by 40-50°C. There are 2 tables and 6 figures.

Card 1/1

ALFINTSEV, G.A.; OVSIYENKO, D.Ye.

Mechanism underlying the growth of gallium crystals from the melt. Dokl. AN SSSR 156 no. 4:792-794 Je '64. (MIRA 17:6)

1. Institut metallofiziki AN UkrSSR. Predstavleno akademikom G.V.Kurdyumovym.

ACCESSION NR: AP4041146 S/0020/64/156/004/0792/0794

AUTHOR: Alfintsev, V. A.; Ovsiyenko, D. Ye.; Kurdyumov, G. V.

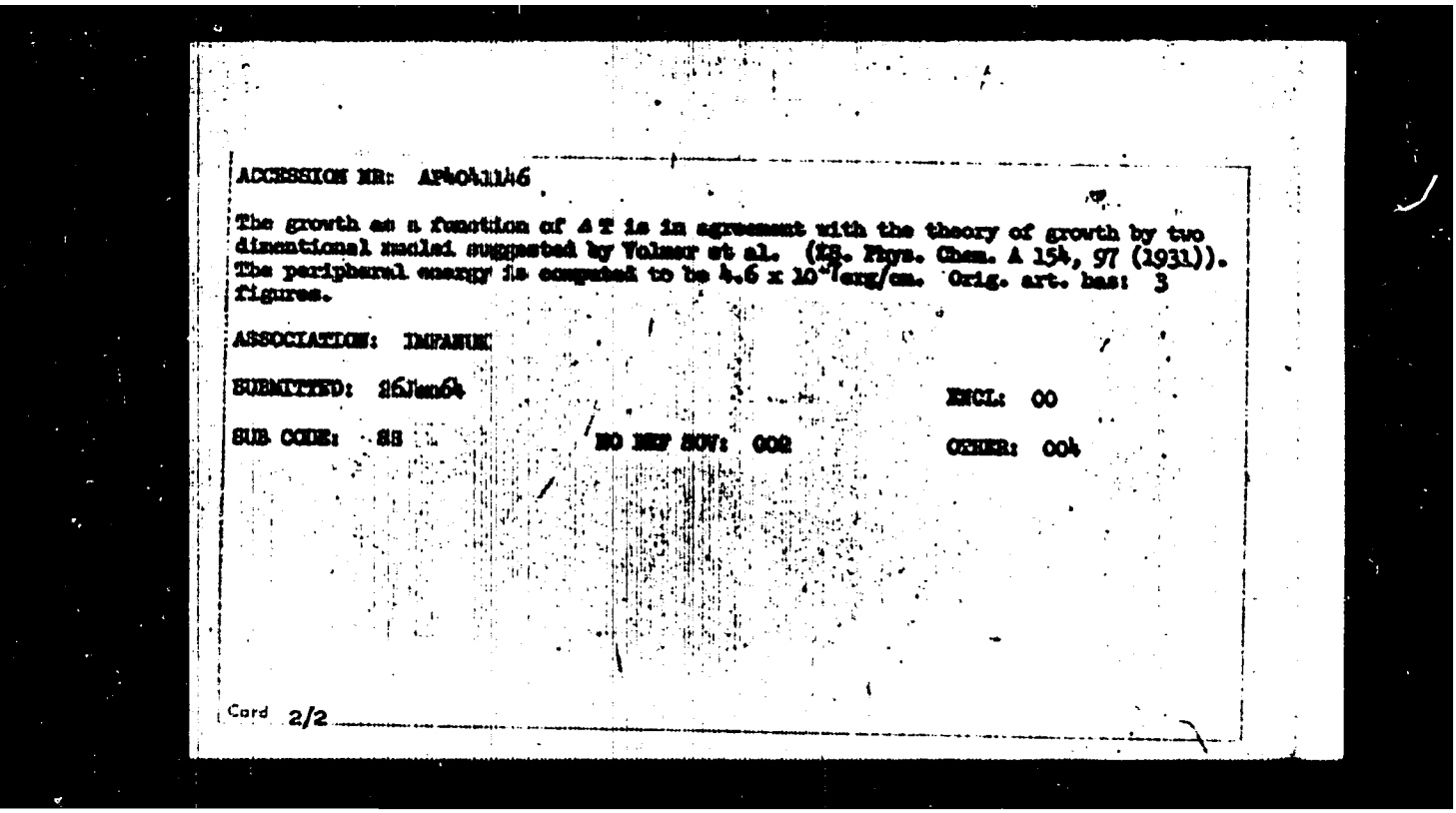
TITLE: Study of the mechanism of growth of gallium crystals from the melt

SOURCE: AN SSSR. Doklady*, v. 156, no. 4, 1964, 792-794

TOPIC TAGS: crystal growth, gallium crystal growth, crystal growth theory, crystallography, deformation effect

ABSTRACT: The purpose of this work was an investigation of the kinetics of gallium crystal growth. The specimen was 0.5 mm thick. Liquid gallium was maintained at a desired constant temperature by means of a ultrathermostat. The growth of the (001) face of the crystal was observed with an MIM-6 microscope. It was found that the rate of growth, at the same amount of undercooling ΔT, is very sensitive to deformation of the primary crystal. If vibrations which lead to deformation of solid gallium are avoided, the crystals did not grow even at a considerable ΔT. For instance, at $\Delta T = 0.48C$, no growth was observed during one hour. At $\Delta T = 0.76C$, the rate of growth was 1.56×10^{-4} m/sec. At $\Delta T = 0.63C$, the growth was 1.28×10^{-4} m/sec. before deformation, and 2×10^{-4} m/sec. after deformation.

Card 1/2



ACCESSION NR: AP4041146

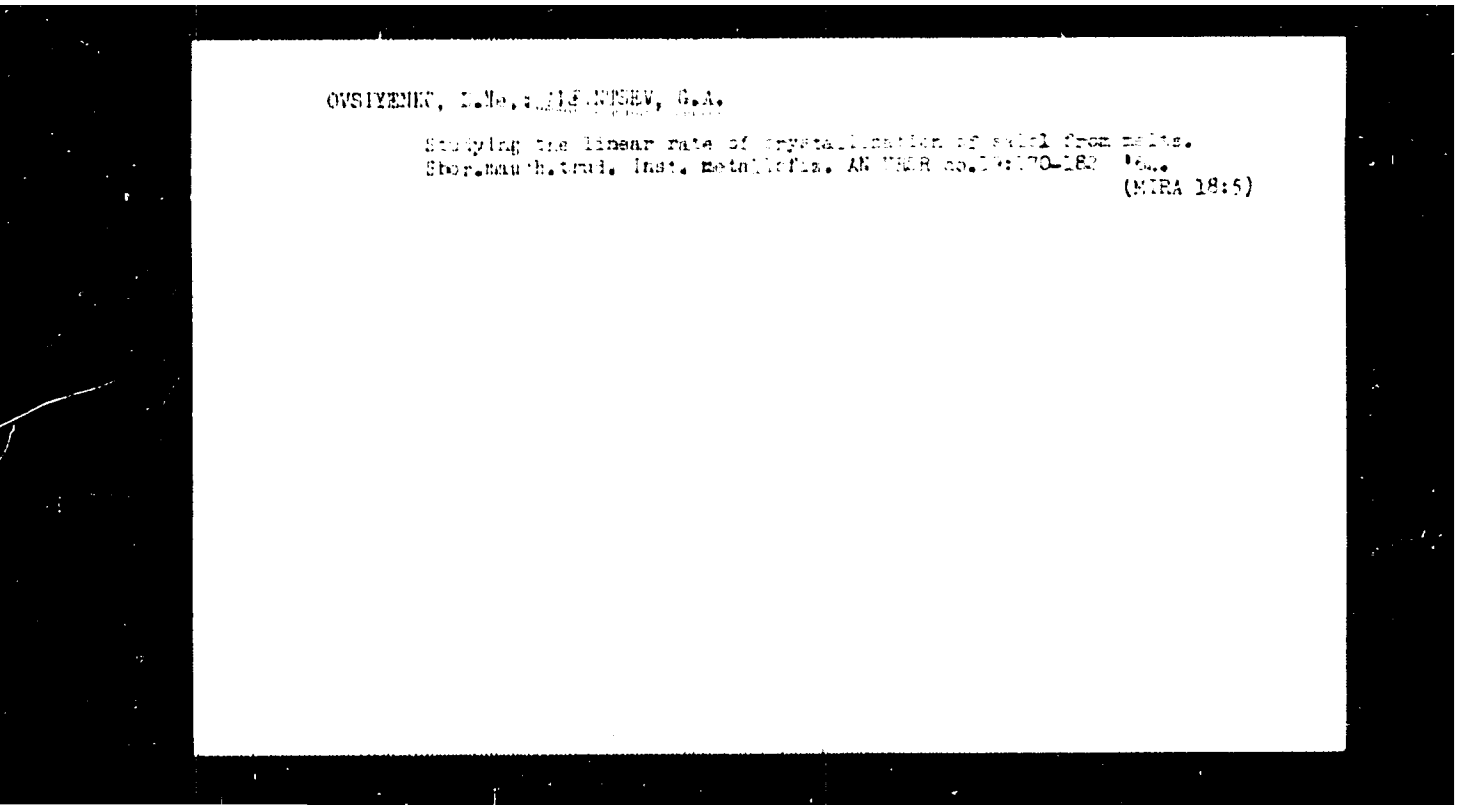
The growth as a function of ΔT is in agreement with the theory of growth by two dimentional nuclei suggested by Volmer et al. (Zs. Phys. Chem. A 154, 97 (1931)). The peripheral energy is computed to be 4.6×10^{-7} erg/cm. Orig. art. has: 3 figures.

ASSOCIATION: IMPANUK

SUBMITTED: 26Jun64 ENCL: 00

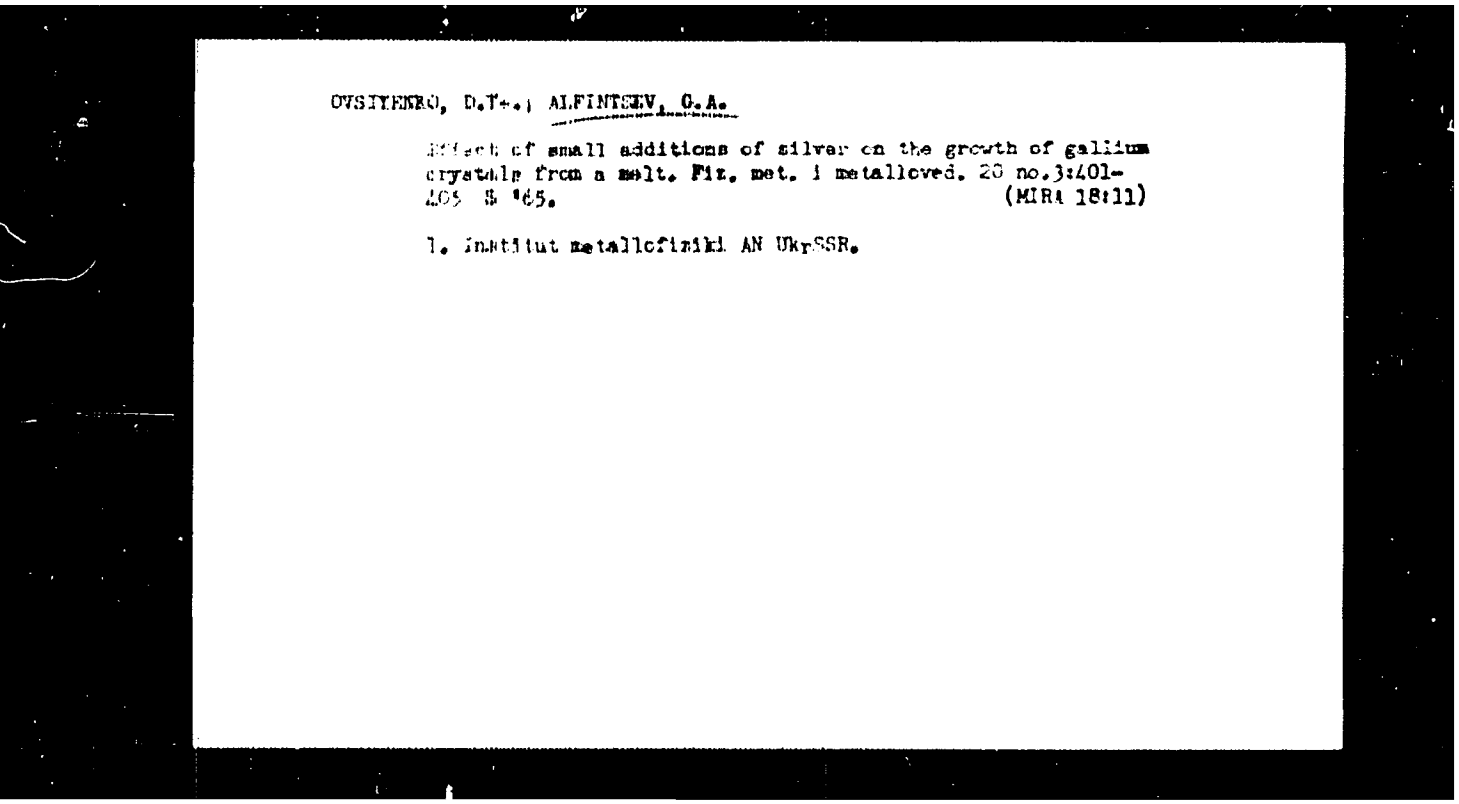
SUB CODE: GS NO REF SOV: 002 OTHER: 004

Card 2/2



OVSIYENKO, L.N.; [illegible] NOSOV, G.A.

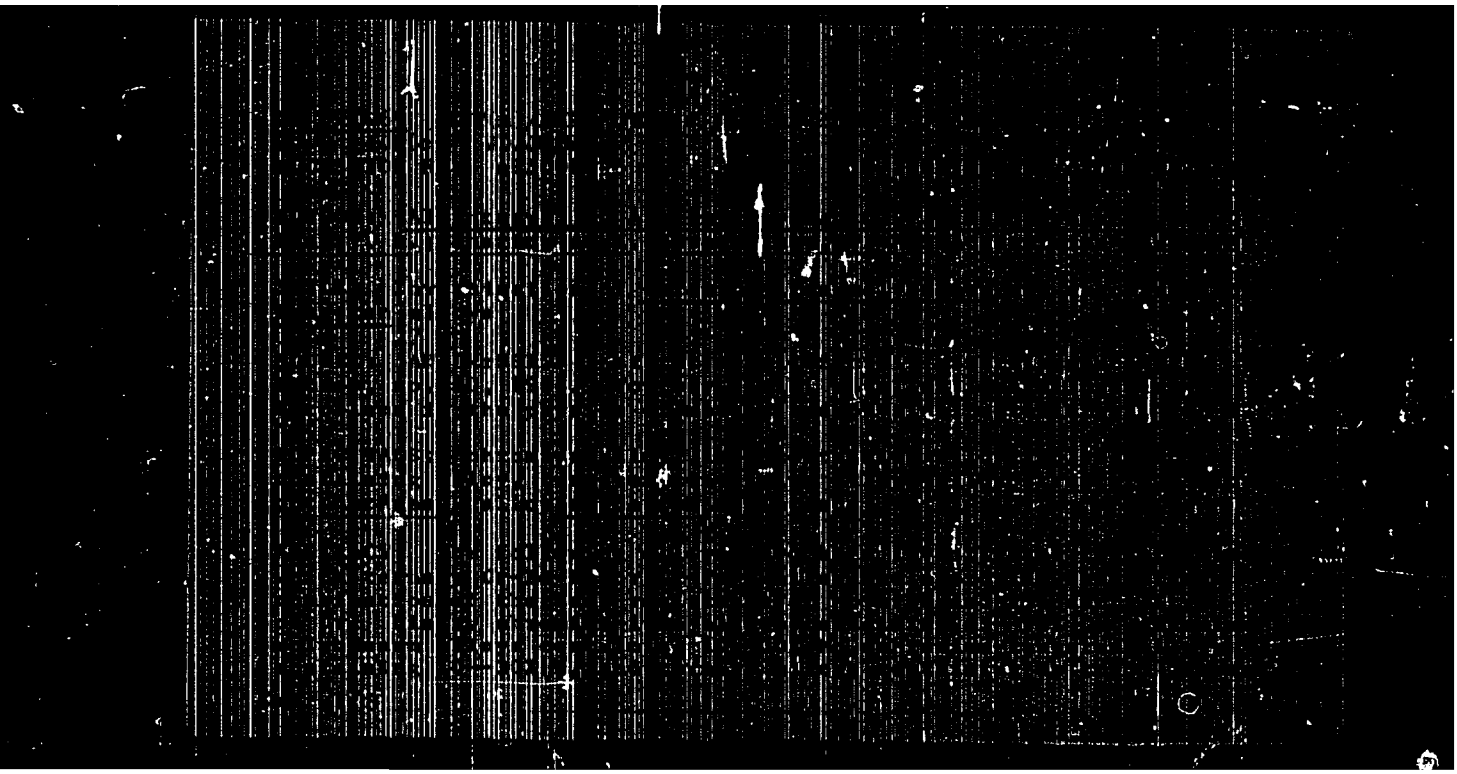
Studying the linear rate of crystallization of solid from melts. Sbor.nauch.trud. Inst. metallurgii AN USSR no.13:170-182 '64. (MIRA 18:5)



OVSIYENKO, D.T.; ALFINTSEV, G.A.

Effect of small additions of silver on the growth of gallium crystals from a melt. Fiz. met. i metalloved. 20 no.3:401-405 S '65. (MIRA 18:11)

1. Institut metallofiziki AN UkrSSR.



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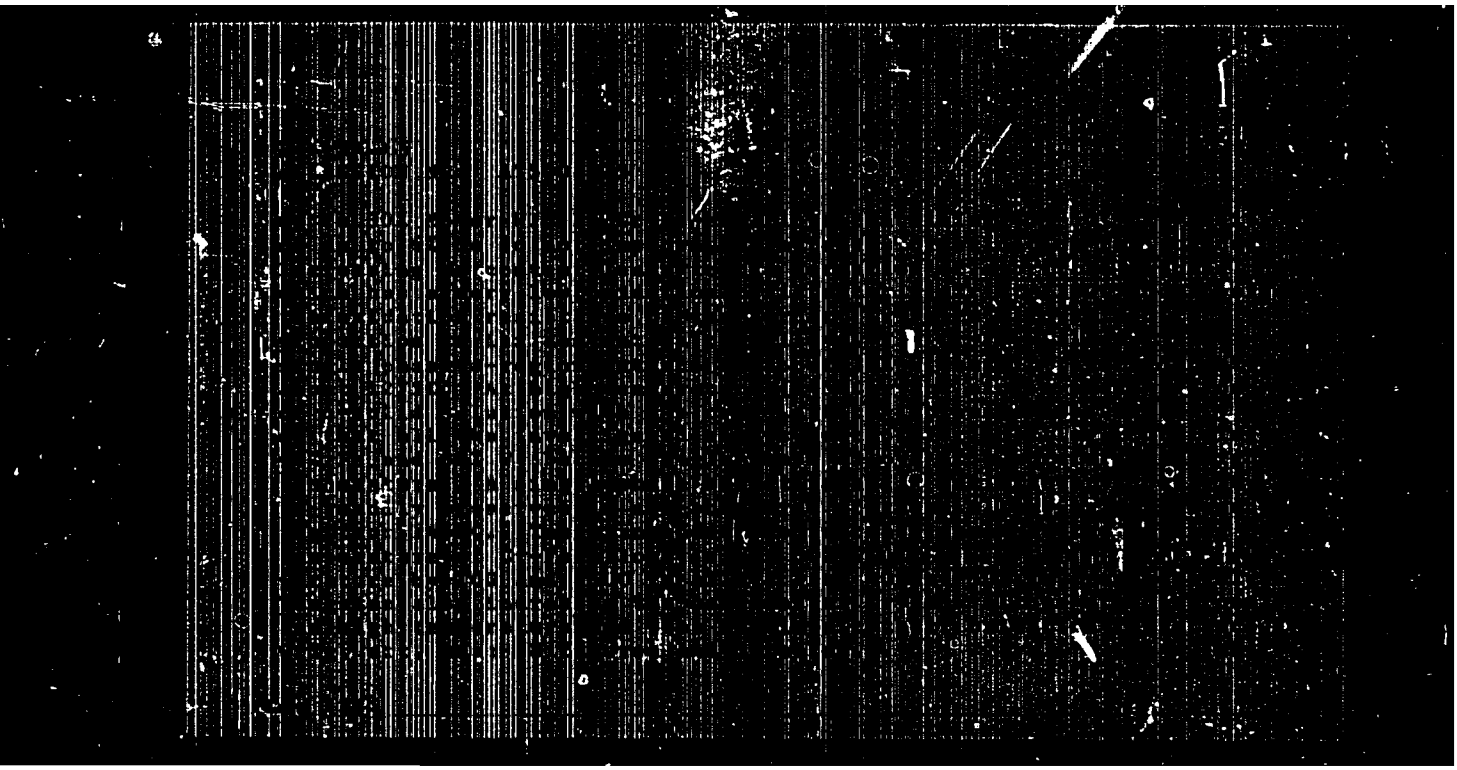

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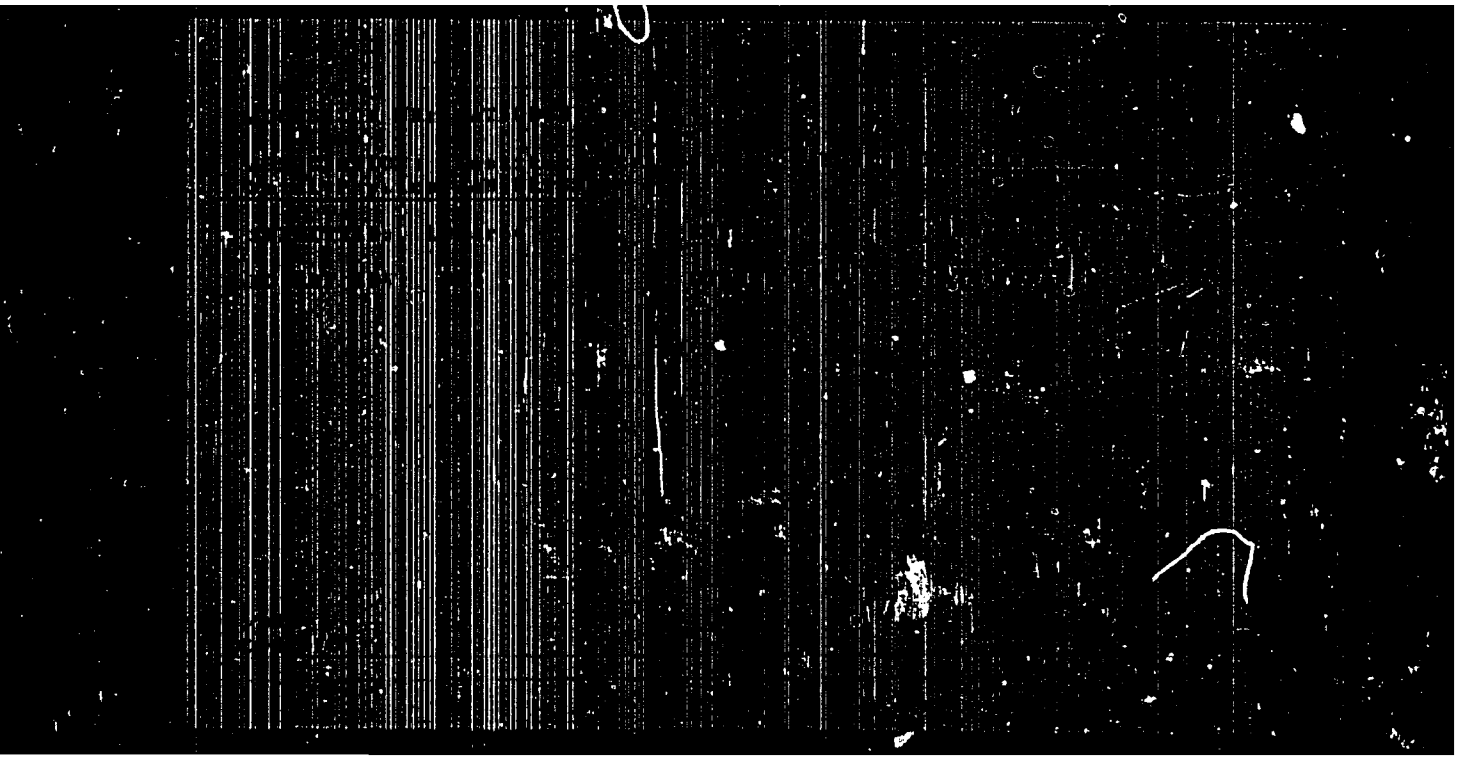

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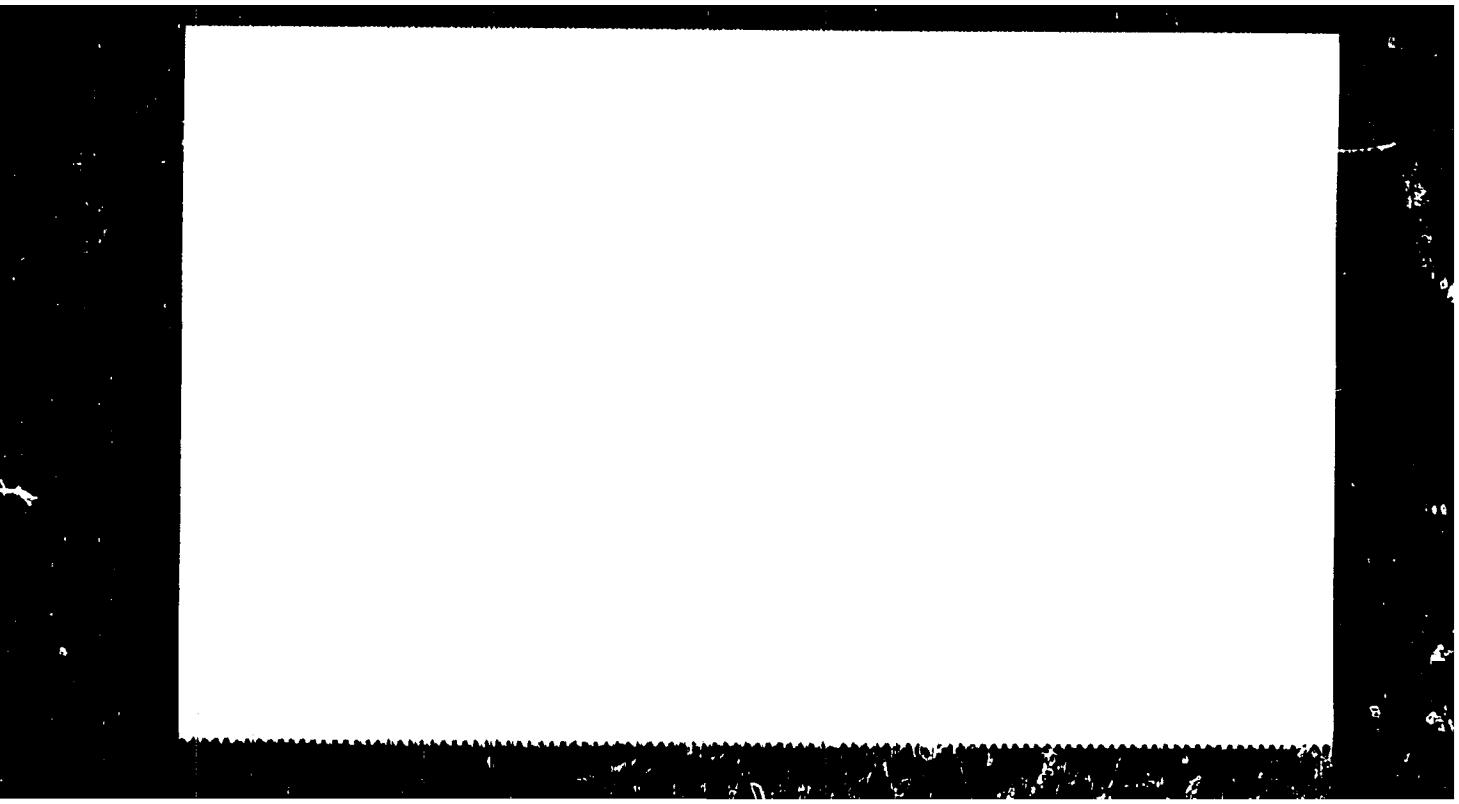

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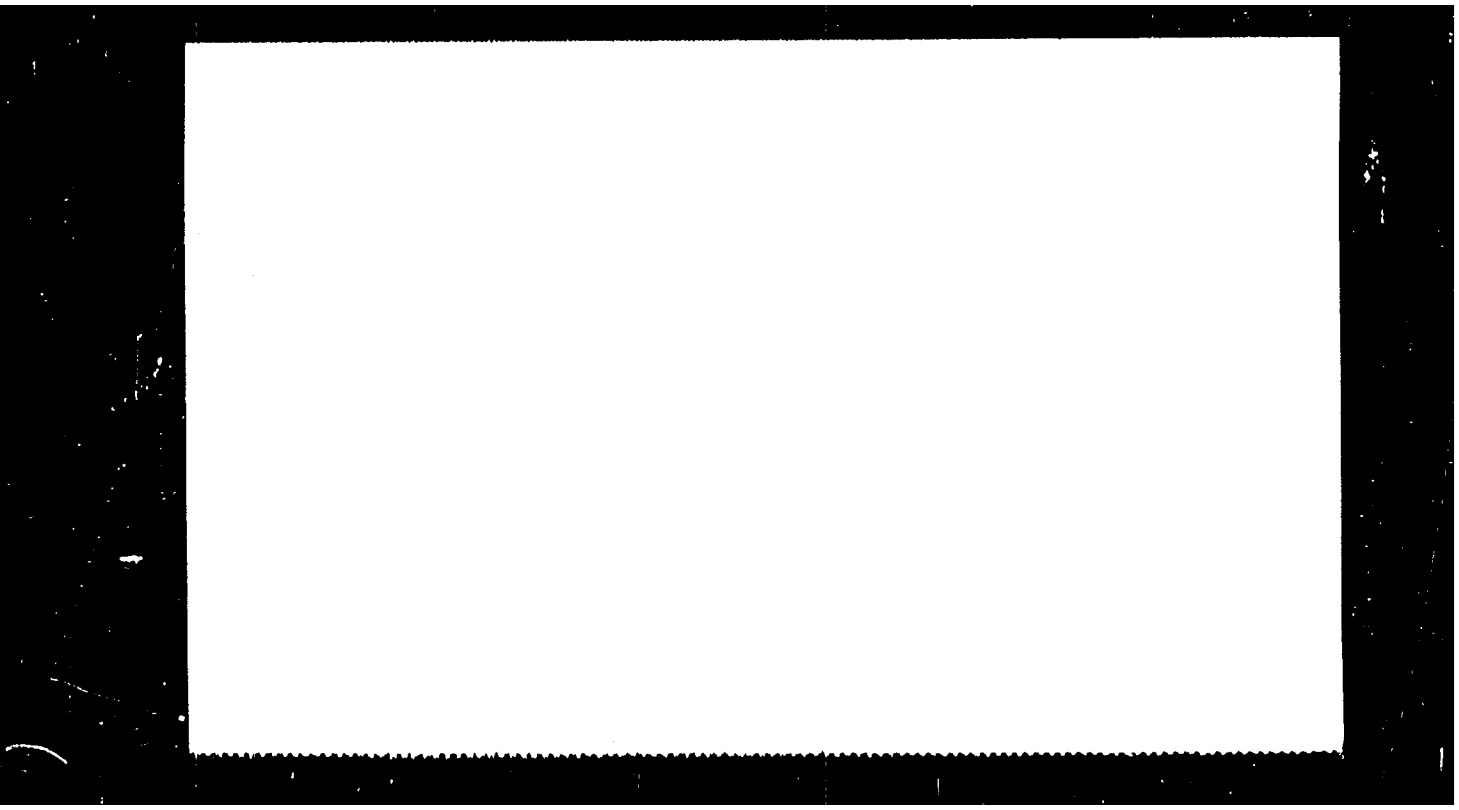

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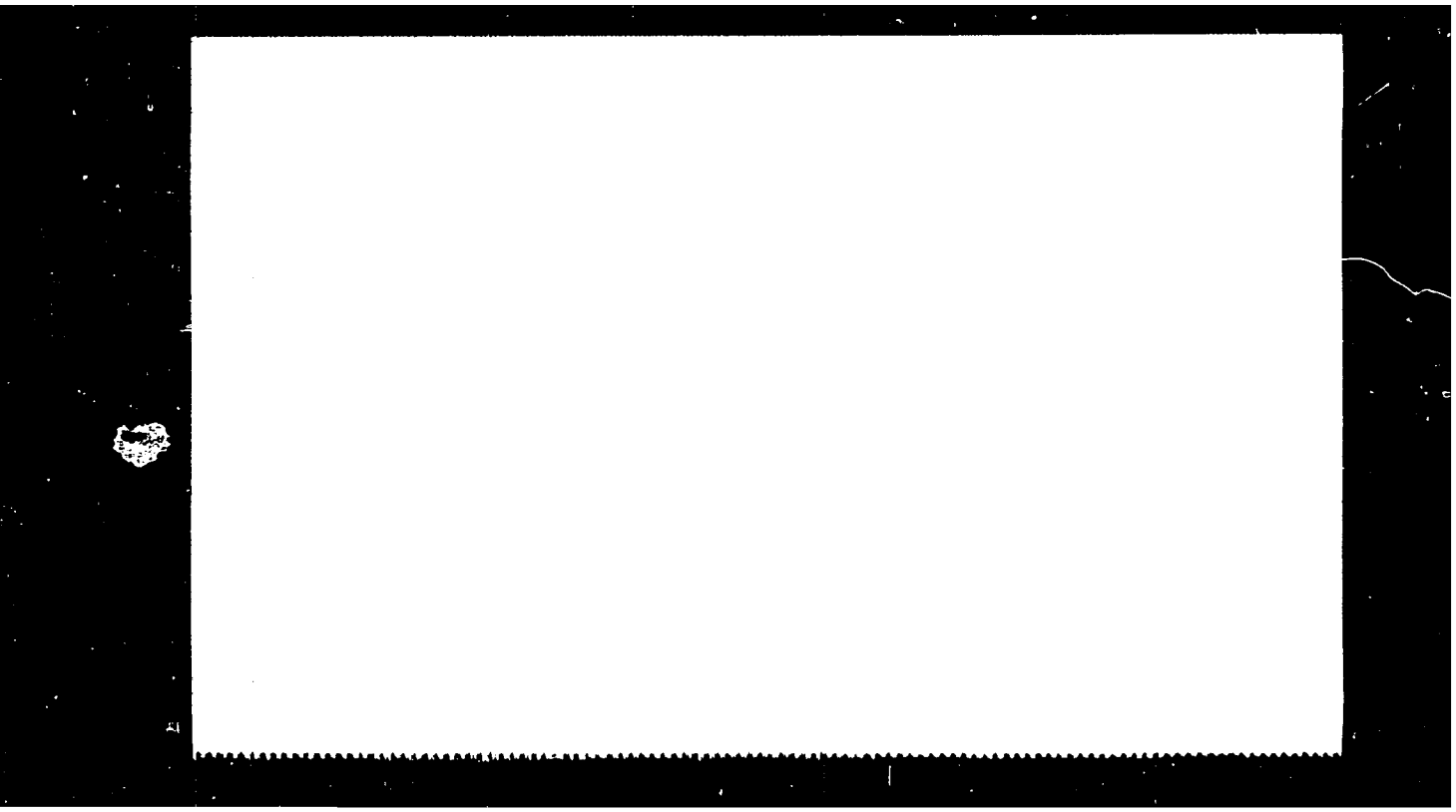

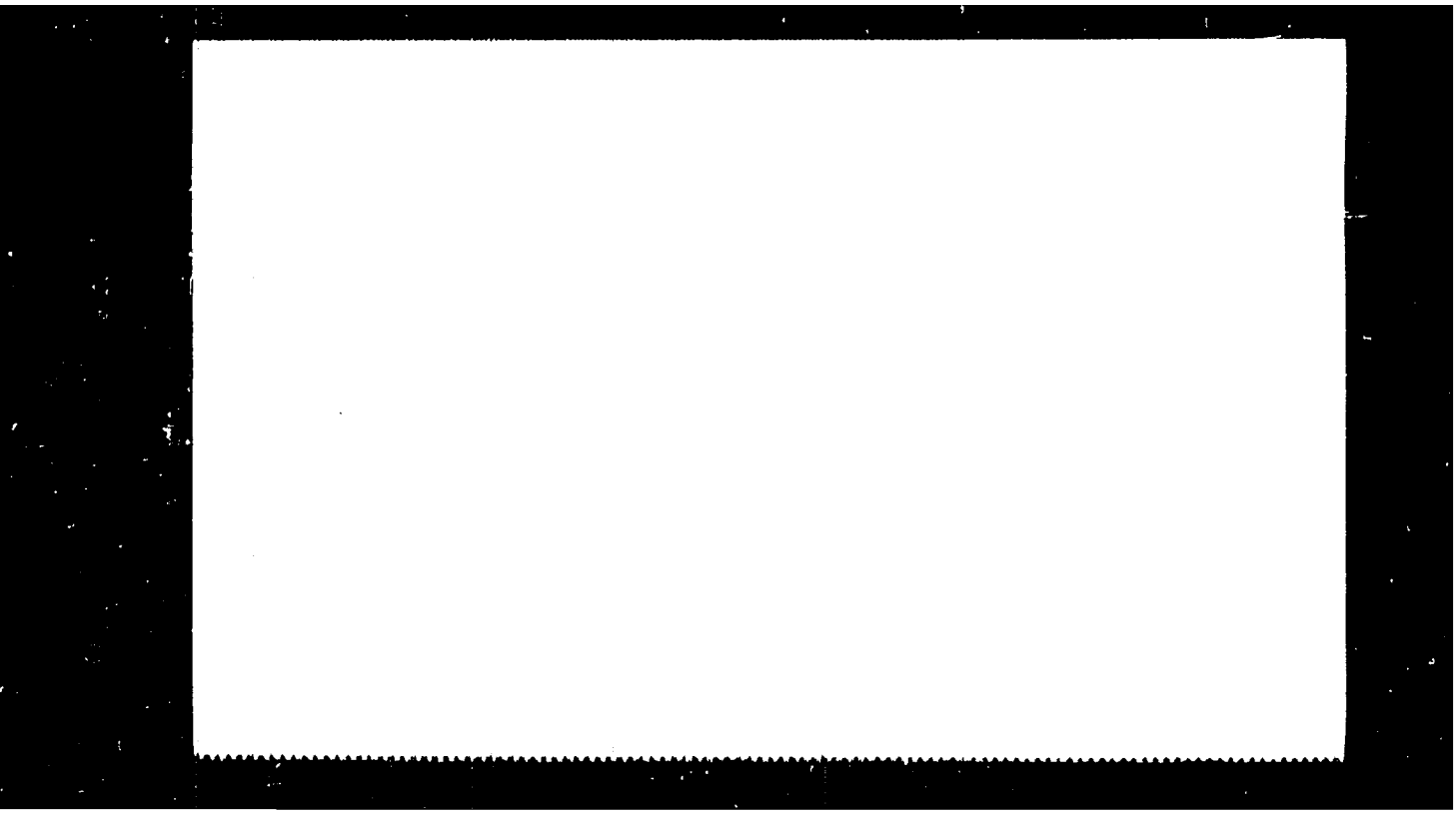

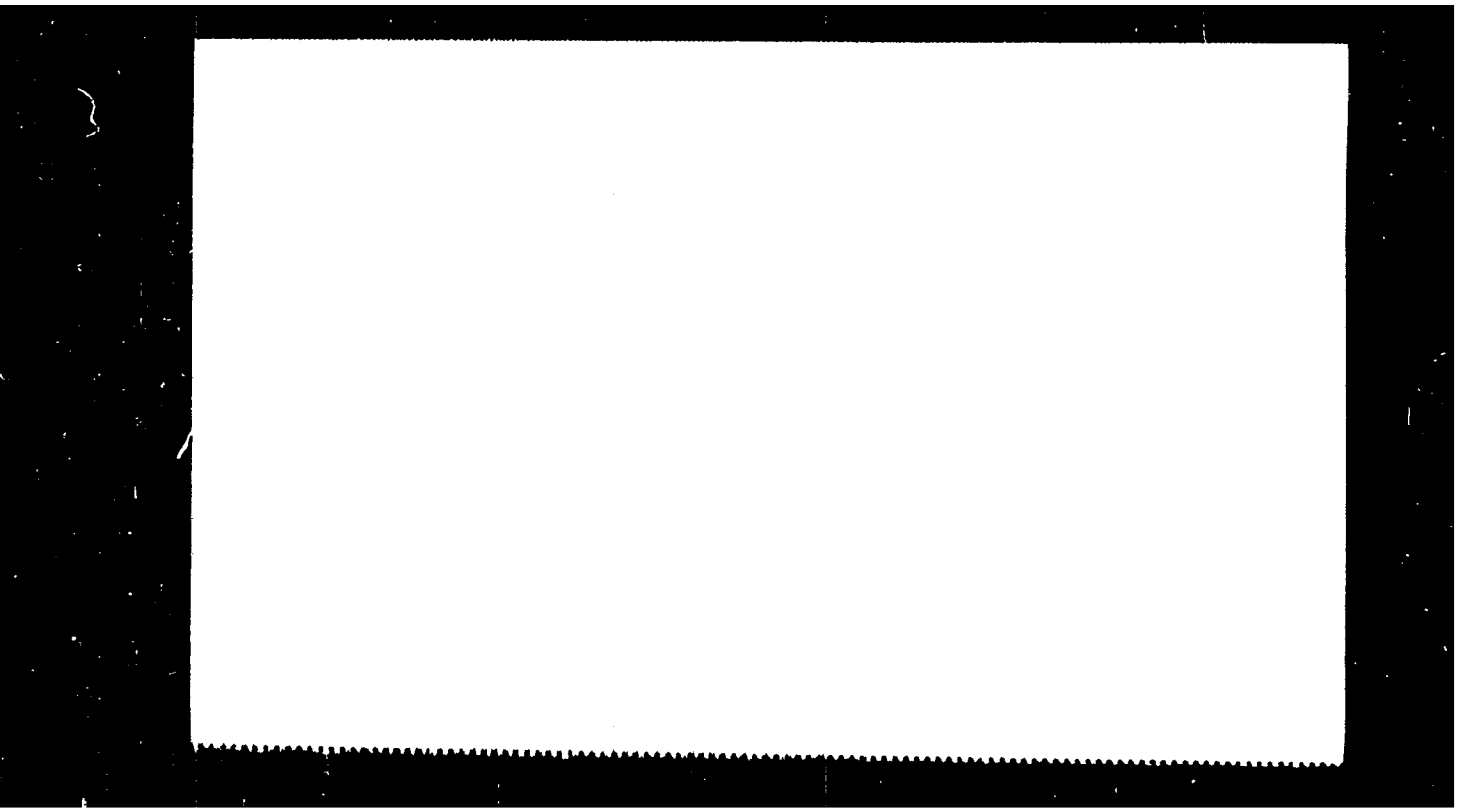

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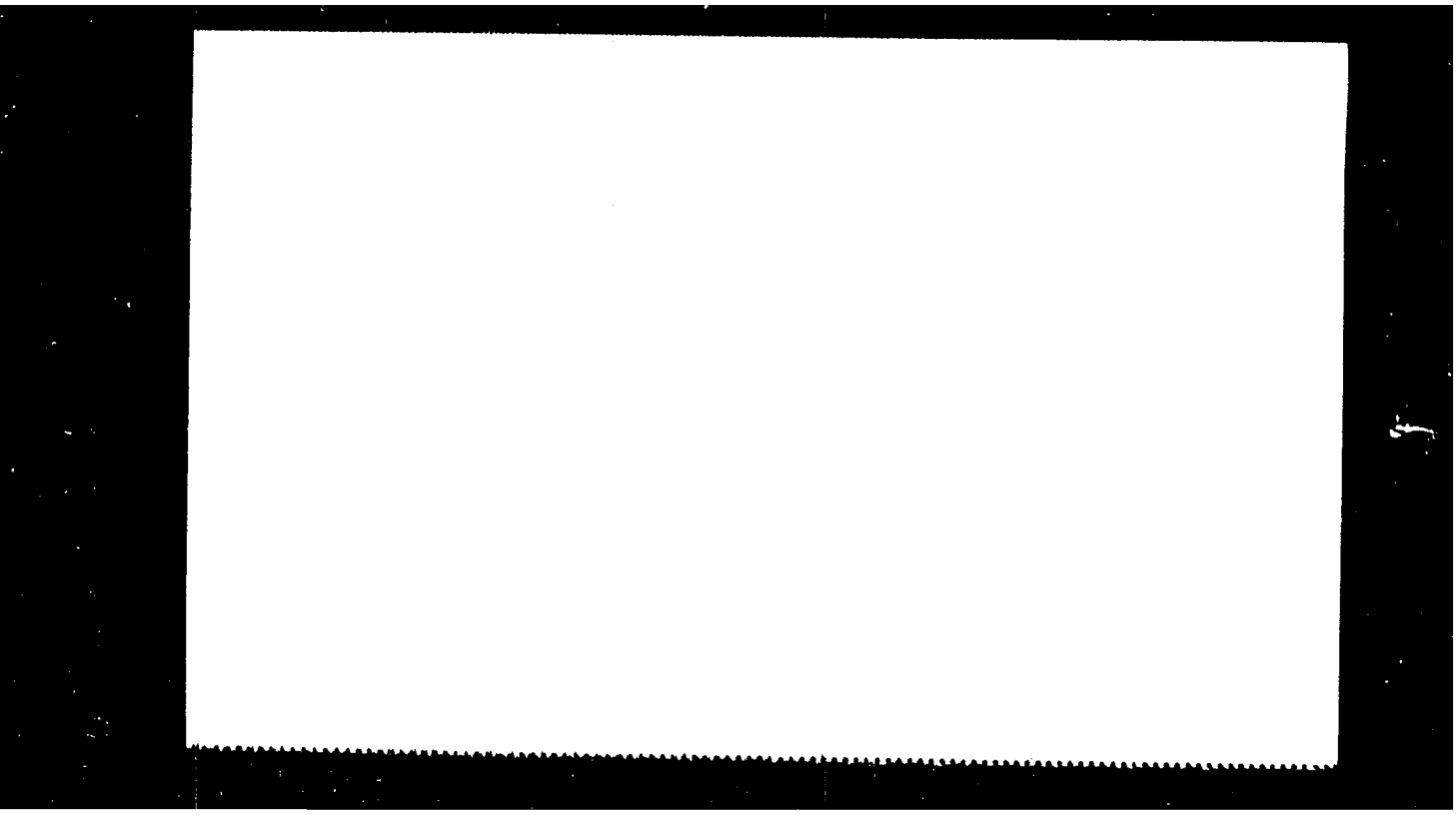

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